

20150113-4005 FERC PDF (Unofficial) 01/13/2015

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Public Meeting, Canyonville, OR, December 10, 2015

1                               BEFORE THE  
2                               FEDERAL ENERGY REGULATORY COMMISSION  
3       - - - - - X  
4   IN THE MATTER OF:                               : Project No.  
5   JORDAN COVE - PACIFIC CONNECTOR               : CP13-483-000  
6   PIPELINE PROJECT                               : CP13-492-000  
7       - - - - - X  
8  
9                               Seven Feathers Casino Resort  
10                               146 Chief Milwaleta  
11                               Canyonville, OR 97417  
12  
13                               Wednesday, December 10, 2014  
14       The above-entitled matter came on for technical  
15   conference, pursuant to notice, at 6:00 p.m., Paul Friedman,  
16   the moderator.  
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P R O C E E D I N G S

1  
2 MR. FRIEDMAN: The Federal Energy Regulatory --  
3 you probably want to quiet down so you have an opportunity  
4 to hear everyone and what they have to say.  
5 We're going to use some abbreviations tonight.  
6 And the Federal Energy Regulatory Commission is abbreviated  
7 F-E-R-C, which is typically called the FERC or the  
8 Commission. And our federal cooperating agency partners and  
9 I would like to welcome you to this public meeting to take  
10 comments on the Draft Environmental Impact Statement or  
11 DEIS, issued by the FERC on February 7, 2014 for the Jordan  
12 Cove Local Fraction and Pacific Connector Pipeline Projects,  
13 which I'll call from now on just the project.

14 My name is Paul Friedman, and I'm the FERC  
15 environmental project manager for this project. And up here  
16 with me tonight is Steve Dush. Steve is the assistant  
17 project manager at FERC. Miriam Liberatore is the BLM  
18 project manager out of Medford District. Wes Yamamoto is  
19 the Forest Service project manager. He's out of the Tillamook  
20 Ranger District. And I see Donna Owens, his boss, the  
21 district ranger here tonight. Thanks for coming Donna.

22 Mark Mackiewicz is National Program Manager for  
23 the BLM. He's somewhere in this room. I talked to him  
24 earlier. There he is. And in the far back we have John  
25 Scott and John Crookston. I just call them the Johns, and



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1 they work for Tetra Tech, who is our third-party contractor,  
2 and they helped us produce the DEIS. And we also have the  
3 third-party contractor for the Forest Service and the BLM,  
4 North States Resources. They're represented by Paul  
5 Uncaphor. Paul you wave.

6 Let the record show that this meeting began at  
7 approximately 6:00 p.m. on Wednesday, December 10, at the  
8 Seven Feathers Hotel in Canyonville, Oregon.

9 As you can see, right there, this meeting is  
10 being recorded and transcribed by a court reporter on behalf  
11 of the FERC so there will be accurate notes on tonight's  
12 proceedings. The court reporter is an employee of Ace  
13 Federal Reporters, Inc., an independent contractor.

14 Ace will sell copies of this transcript at  
15 various sliding scale prices, beginning from same day to  
16 five business days after this meeting. If you'd like a copy  
17 of the transcript prior to its being posted on the FERC  
18 website, you can make arrangements directly with Ace.

19 If you'd like to speak tonight, please sign the  
20 speakers' list, which the Johns are keeping at the back of  
21 the room. We will call people up to speak one at a time in  
22 the order they write their name on the list. The only thing  
23 I remind you is that you print your name legibly so that I  
24 can read it, and even then I still have trouble pronouncing  
25 people's names.

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1 The production of the DEIS was a collaborative  
2 effort, involving a number of federal cooperating agencies,  
3 including the BLM, Forest Service, Corps of Engineers,  
4 Department of Energy, EPA, Coast Guard, Fish and Wildlife  
5 Service, Bureau of Reclamation, and the Department of  
6 Transportation. The cooperating agencies had an opportunity  
7 to review an administrative draft and some agencies  
8 contributed text to the DEIS.

9 For example, the BLM and the Forest Service and  
10 their third-party contractor, wrote sections of the DEIS  
11 related to their evaluation of proposed amendments to an  
12 individual district and National Forest Land Management  
13 plans to make provision for the pipeline. In a few minutes,  
14 a representative from the BLM and the Forest Service will  
15 explain what those agencies are doing with regard to this  
16 project.

17 The FERC is an independent regulatory agency.  
18 One of the industries we regulate is the interstate  
19 transportation of natural gas. Originally, we were called  
20 the Federal Power Commission when we were created by  
21 Congress in 1920. Later, under the Carter Administration,  
22 we were reorganized and renamed. Our leaders are five  
23 people. We call them the Commissioners. They sit on the  
24 11th floor of our building, and they are the decision makers  
25 for the Commission.

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1 And those commissioners are appointed by the  
2 President of the United States and confirmed by Congress.  
3 Usually, there are three in the party in power, so there's  
4 three Democrats and two in the opposing party, so there's  
5 two Republicans. They typically serve five-year terms.  
6 Steve and I are mere civil servants. The Commissioners take  
7 recommendations from staff prior to making decisions, and  
8 our recommendations for this project can be found in Section  
9 5.2 of the DEIS.

10 In accordance with Energy Policy Act of 2005 and  
11 the Natural Gas Act, the FERC is the lead federal agency  
12 responsible for authorizing onshore, liquefied natural gas  
13 -- another acronym, LNG -- terminals and interstate natural  
14 gas facilities. We are also the lead agency for compliance  
15 with the National Environmental Policy Act of 1969, another  
16 abbreviation, NEPA.

17 Our DEIS was prepared to satisfied the Council on  
18 Environmental Affairs regulations for implementing the NEPA.  
19 The full cooperating agencies can adopt the EIS for their  
20 regulatory needs to comply with the NEPA; however, each  
21 agency would make their own independent conclusions in their  
22 respective records of decision.

23 The Commission will make its record of decision  
24 in what we call a commission order. There has been no  
25 commission order issued for this project; therefore, no

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1 decision by the FERC has been made at this time. The  
2 Commissioners will not even consider making a decision until  
3 after we issue a final environmental impact statement, and  
4 that is several months off.

5 In May 21, 2013, Jordan Cove Energy Project, LLC  
6 -- we just abbreviate them as Jordan Cove -- filed an  
7 application with the FERC under Section 3 of the MGA in  
8 Docket No. CP13-483-000 seeking authority to construct and  
9 operate an LNG export terminal at Coos Bay.

10 Jordan Cove intends to produce about 6 million  
11 metric tons per year of LNG from a supply of about 1 billion  
12 cubic feet per day of natural gas. They're going to put  
13 that LNG -- LNG, by the way, is natural gas frozen to about  
14 minus 260 degrees Fahrenheit. When that happens, it reduces  
15 its volume by about 600 percent. Takes a vapor, turns it  
16 into a liquid. They put the liquid on big ships that travel  
17 across oceans.

18 They're going to export the LNG to either free  
19 trade agreement nations or non-free trade agreement nations,  
20 and they have permission to do that issued by the Department  
21 of Energy. The main facilities who will be part of the  
22 Jordan Cove complex include a 420-megawatt power plant, a  
23 natural gas processing plant, four liquefaction trains, two  
24 LNG storage tanks, a transfer pipeline and rolling platform,  
25 a marine slip with docks for LNG vessels and tugboats, and

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1 access channel connection the existing Coos Bay navigation  
2 channel.

3 Pacific Connector Gas Pipeline, LLP, or Pacific  
4 Connector, for short, filed its application with the FERC in  
5 Docket Number CP13-492-300, under Section 7 of the MGA on  
6 June 6, 2013. Pacific Connector seeks authority to  
7 construct and operate a 232-mile long, 36-inch diameter  
8 underground, 100-steel transmission pipeline between the  
9 mainland hub and the Jordan Cove terminal.

10 The pipeline would cross portions of Klamath,  
11 Jackson, Douglas, and Coos Counties, Oregon. Near Malin,  
12 Oregon, Pacific Connector would connect with existing  
13 pipeline systems of Gas Transmission Northwest, which is  
14 called GTN, for short, and Ruby Pipeline, which is called  
15 Ruby, for short, to obtain natural gas from sources in  
16 western Canada and the Rockies Mountains. For full  
17 disclosure, Ruby is partly owned by one of the partners of  
18 both Pacific Connector and Jordan Cove. GTN is owned by a  
19 company called TransCanada.

20 The Pacific Connector Pipeline would have a  
21 designed capacity of about 1.07 bcf a day with 0.04 Bcf  
22 dedicated to delivery at existing Northwest Pipeline Grants  
23 Pass lateral to serve customers of southern Oregon. Again,  
24 a clarification, Northwest is owned by one of the partners  
25 of Pacific Connector.

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1 Other facilities associated with the Pacific  
2 Connector Project include a 41,000 horsepower compressor  
3 station near Malin, two receipt meter stations within the  
4 compressor station track, a Clarks Branch delivery meter  
5 station at the interconnection with Northwest, a delivery  
6 meter station at Jordan Cove, five pig launchers and  
7 receivers, 17 main block valves and 11 communication towers.  
8 Jordan Cove would receive in its supply of  
9 natural gas from the Pacific Connector Pipeline; therefore,  
10 although these are two separate applications with the FERC  
11 by two separate companies, we are considering them connected  
12 actions and we are evaluating the environmental impacts of  
13 both the LNG terminal and the pipeline together in one  
14 comprehensive DEIS. The two companies also share some  
15 ownership overlap, and that's disclosed both in their  
16 applications and in the DEIS.

17 I want to make it very clear that the project is  
18 being proposed by two private companies. The FERC is not  
19 involved in either the design of the facilities or their  
20 location. The companies came up with their project design  
21 and the location for their facilities. And FERC's job, as a  
22 regulator, is to then analyze the environmental impacts of  
23 the construction and operation of those facilities.

24 The FERC is not an advocate for the project. We  
25 are advocates for the environmental review process. The

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1 Commissioners will make their own independent decision about  
2 whether or not this project has benefits that would be in  
3 the public interest. And again, I'm going to reiterate the  
4 Commissioners have not let anyone know what their decision  
5 would be.

6 During our review of the project, we have a set  
7 of information from a variety of sources. This includes the  
8 applications from the companies and their responses to our  
9 questions, public input, data provided by other federal,  
10 state, and local resource agencies, and our own independent  
11 research. Our analysis can be found in the DEIS.

12 We sent copies of the DEIS to our environmental  
13 mailing list, which includes elected officials, federal,  
14 state, and local agencies, regional environmental groups,  
15 and non-governmental organizations, affected landowners,  
16 Indian Tribes, commenters and other interested parties,  
17 local newspapers and libraries, and parties to the  
18 proceeding.

19 Paper copies of the DEIS were only sent to those  
20 people who requested hard copies in response to our Notice  
21 of Intent, all others received a compact disk or CD version.  
22 We no longer have any paper copies available because we only  
23 printed enough for the people who requested them. We do  
24 have extra copies of the CD, if you want those.

25 Anyone who received a copy of the DEIS will also

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1 be sent a copy of the FEIS. You do not have to sign up a  
2 second time. However, if you did not receive a copy of the  
3 DEIS and you want to get a copy of the FEIS, please go to  
4 the back of the room where our Tetra Tech team is waiting  
5 with Environmental Mailing List. You can also use that list  
6 to request a hard copy of the FEIS if you only got a CD of  
7 the DEIS.

8 About 72 miles of the Pacific Connector Pipeline  
9 route would cross federal lands, including 40 miles of BLM  
10 land, 30 miles of Forest Service land, and less than a mile  
11 of Reclamation land. At this point, I'd like the  
12 representative for the Forest Service and the BLM, William,  
13 to explain those agencies actions.

14 MS. LIBERATORE: Thank you, Paul, and thank all  
15 of you for being here tonight. We're looking forward to  
16 hearing from you, and we value your input.

17 As Paul said, my name is Miriam Liberatore. I'm  
18 with the BLM, and I work at the Medford District, and the  
19 BLM's project manager for the Pacific Connector Pipeline  
20 Project.

21 The BLM and the Forest Service have a role in  
22 this project insofar as the project crosses public lands.  
23 It crosses lands managed by the BLM and Forest Service and  
24 Reclamation, but it's the BLM and the Forest Service that  
25 have decisions to make on this project, and those decisions



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1 have to do with the right-of-way to cross public lands and  
2 some proposals to amend our land management plans. I'm  
3 going to talk a little bit about both of those.

4 So, as the project is now proposed it crosses  
5 over 70 some miles of lands, as Paul described. And Pacific  
6 Connector would need a grant, a right-of-way grant to cross  
7 those lands and occupy them with the pipeline. It's the  
8 same as anybody else needs to cross public lands for any  
9 reason. Many of you might have a driveway that accesses  
10 your property and BLM may have granted you a right-of-way or  
11 an easement to do that.

12 So, they have applied for a right-of-way grant  
13 with the BLM. And the BLM, under the Mineral Leasing Act of  
14 1920, is the agency that has the authority to grant or deny  
15 a right-of-way.

16 We have not made a decision yet about the  
17 right-of-way grant. We don't have the information we need  
18 to do it. And we won't make a decision until have we have  
19 seen the FEIS and other conditions that we need to make our  
20 decision have been met. The Forest Service and Reclamation  
21 have a role in the grant in that they give us their  
22 concurrence with our decision. So, that's the right-of-way  
23 grant.

24 So, now I'm going to talk a little bit about the  
25 amendments. If the pipeline is built it would not conform

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1 with the current land management plans for the BLM and  
2 Forest Services in the areas where it would cross, and the  
3 BLM can't consider a right-of-way grant for projects that  
4 don't conform with those plans. So, in order to cross, the  
5 plans need to be amended to make provision for the project  
6 so that it can conform.

7 So, the BLM and Forest Service both have policies  
8 that allow us to do that, and we have proposed 20 amendments  
9 in the Draft EIS that would allow the project to conform.  
10 Four of those amendments are for BLM plans. Fifteen of them  
11 are for Forest Service plans, and one of them is a joint  
12 amendment for both agencies.

13 The areas that are affected would be the Coos Bay  
14 District of the BLM, the Roseburg District, Medford  
15 District, and the Lakeview District in its Klamath Falls  
16 Resource area. And for the National Forest, the forests  
17 affected are the Umpqua, the Rogue River, and the Winema.

18 The amendments address issues having to do with  
19 our survey and manage guidelines, habitat retention for  
20 northern spotted owl and for the marbled murrelet and other  
21 environmental conditions having to do with soils, visual  
22 quality objectives, riparian areas, and a proposal to  
23 convert some of our metrics lands, which is where we have  
24 our timber base into lake successional reserves to make up  
25 for the impacts to lake successional reserves by the

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1 footprint of the pipeline where it crosses through those  
2 areas.

3 Those decisions that we need to make require us  
4 to follow the NEPA process. And as cooperating agencies on  
5 this project, we will accept PERC's Final EIS, but we make  
6 our own decisions. And as Paul said earlier, our decisions  
7 will be independent of PERC's, and we'll have our own  
8 records of decision.

9 That said, to comment on this, if you comment  
10 tonight on our proposals your comments will go in the record  
11 and we'll respond to them, but if you want to comment after  
12 tonight or in writing or supplement your comments tonight  
13 then please use the process that Paul will describe to you  
14 in a few minutes. It's the only way we can receive your  
15 comments and address them, and we will address all of them.

16 Thank you very much. Thank you for being here,  
17 and we're looking forward to hearing from you.

18 MR. FREEMAN: Thank you, Miriam.

19 One of the things that I wanted to point out:  
20 people have commented about what a large document the hard  
21 copy of the EIS, in fact, even in CD, it runs like 5,600  
22 pages. And the reason it's so big is because it's actually  
23 three EISs in one. One EIS analyzes the Forest Service and  
24 BLM and Reclamation plan amendments, another part of the EIS  
25 analyzes the effect of the Jordan Cove terminal, and of

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1 course, the last portion of the EIS analyzes the effects of  
2 the Pacific Connector Pipeline. So, it's like three  
3 documents in one, which is why it is so big and unwieldy.

4 We are beginning a 90-day period for taking  
5 comments on the DEIS. Comments can be filed with the  
6 Commission up until February 13, 2015. The FERC keeps the  
7 consolidate record for all of these proceedings, so please  
8 do not send your comments to the BLM and the Forest Service.

9 Also, there's an organization out there giving  
10 the public wrong information. They're telling members of  
11 the public to email me. Please do not email me. Emails are  
12 not considered by the Commission. The only way to have your  
13 comments considered is to put them in the FERC public  
14 record, which we call E-Library, and I'll mention that in a  
15 few minutes. Only comments placed in the FERC public record  
16 at E-Library will be considered by the Commission staff.  
17 And as explained in our Notice of Availability issued on  
18 February 7, 2014, there are several ways to provide the FERC  
19 with your comments on the DEIS.

20 First, you can use the E-Comment feature on the  
21 FERC webpage, which can be found at [www.FERC.gov](http://www.FERC.gov). Second,  
22 you can use the e-filing feature on the FERC webpage.  
23 Third, you can write a letter to the Secretary of the  
24 Commission at 888 First Street, N.E., Washington, D.C.  
25 20426. Remember to always mark your comments with the

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1 Docket Number CP13-483-000 for Jordan Cove and CP13-492-000  
2 for Pacific Connector.

3 Lastly, you can give oral comments tonight being  
4 recorded by the court reporter, and this transcription will  
5 eventually find its way into the library. All comments  
6 received, whether written or oral will be given equal  
7 treatment by the FERC staff and will be addressed in our  
8 Final EIS. It does not matter whether your comments were  
9 submitted the first day the issued on February 7 or on the  
10 last day of receiving comments on February 13, 2015.

11 While the purpose of tonight's meeting is to take  
12 verbal comments on the DEIS, given the limited time each  
13 presenter will have at this forum, I urge you to send the  
14 detailed comments into the FERC, either electronically or in  
15 writing. The more specific your comments, the better we can  
16 address your concerns.

17 Comments such as I am in favor of the project, or  
18 I'm against the project are not particularly helpful. It's  
19 not an election, and it's not a popularity contest.  
20 Instead, please try to focus on the environmental issues  
21 raised in the DEIS. We call it a draft because we know it's  
22 not perfect, so when you have comments that are constructive  
23 we can make those corrections in the FEIS.

24 After the comment period ends on February 13,  
25 2015, the FERC staff and our third-party contractor,

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1 together with the federal cooperating agencies will review  
2 the comments and address them in the FEIS. The FERC will  
3 issue a new notice of schedule in the near future that will  
4 present a new date for the issuance of the FEIS and the  
5 90-day period for the other cooperating agencies.

6 No decision about approving this project has been  
7 made at this time. The EIS is not a decision document.  
8 Only after the Commissioners consider the findings in the  
9 EIS, together with non-environmental issues, such as markets  
10 and rates and tariffs, would the Commissioners make their  
11 decision about whether or not to authorize the project.

12 If the Commission authorizes the project in an  
13 order, only the parties to the proceeding, known as  
14 interveners, may legally question that decision. The FERC  
15 requirement for filing a motion to intervene can be found  
16 under Title XVIII, Code of Federal Regulations, Part  
17 385.124.

18 While the period for filing a motion to intervene  
19 has passed, the Commission will consider requests for late  
20 intervention with good cause. Typically, affected  
21 landowners and those with legitimate environmental concerns  
22 who could not be represented by another are considered to  
23 have good cause for late intervention. However, simply  
24 filing comments will not give you intervener status, but you  
25 do not need to be an intervener to have your comments

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1 considered. An intervenor may seek review of a Commission  
2 order.

3 If the Commission authorizes the project,  
4 construction may not begin until after Jordan Cove and  
5 Pacific Connector obtain all other necessary federal permits  
6 and approvals.

7 At a minimum, this includes biological opinions  
8 from the Fish and Wildlife Service and National Marine  
9 Fisheries Service under the Endangered Species Act; a  
10 right-of-way grant for the pipeline issued by the BLM, under  
11 the Mineral Leasing Act with concurrence from the Forest  
12 Service and Reclamation; permits under Section 10 of the  
13 Rivers and Harbors Act; and Section 404 of the Clean Water  
14 Act issued by the Corps of Engineers; water quality  
15 certification under Section 401 of the Clean Water Act  
16 issued by the Oregon Department of Environmental quality;  
17 permits under the Clean Air Act, also issued by the ODEQ;  
18 and lastly, a filing from the Oregon Department of Land  
19 Conservation and Development that the project would be  
20 consistent with the Coastal Zone Management Act.

21 In addition, the Energy and Facilities Siting  
22 Council of the Oregon Department of Energy must make an  
23 independent decision about whether or not to authorize the  
24 South Bend Power Plant, which is associated with the Jordan  
25 Cove terminal. Jordan Cove and Pacific Connector must

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1 document that all pre-construction conditions in the FERC's  
2 order have been met before we would allow construction to  
3 begin. Construction activities would be monitored by the  
4 FERC staff and the federal land managing agencies.

5 Now is the part of this meeting that you've all  
6 been waiting for where you, the public, get an opportunity  
7 to speak. I'll remind you that the purpose of this meeting  
8 is to hear public comments on our DEIS.

9 In general, I will not be responding to your  
10 comments tonight, unless you ask an administrative question  
11 that I happen to know the answer to; otherwise, I'll just be  
12 listening. We will address your comments in the Final EIS  
13 after we do the appropriate research.

14 So, here are some ground rules for this meeting.  
15 After I call your name, please come up to the microphone  
16 over there in the first row and speak into the microphone  
17 over there on the first row and speak into the microphone,  
18 clearly identify yourself and spell your name for the court  
19 reporter.

20 If you represent an organization, state the name  
21 of that organization. If you are a landowner along the  
22 pipeline, provide us with the approximate milepost of your  
23 property or an address or cross streets. If you have a  
24 written summary of your comments, please give that to the  
25 Tetra Tech team and the back of the room, and we'll make



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1 certain it gets into the public record.

2 My number one rule please show respect to all  
3 speakers, whether you agree with them or not. I ask you not  
4 to cheer, and of course, do not boo.

5 Lastly, because of the large number of speakers  
6 we have here tonight, we're going to limit each individual  
7 speaker to just three minutes.

8 At two and a half minutes, Steve will show you a  
9 yellow piece of paper, at three minutes you'll see red, and  
10 at that point I'm going to ask you to stop talking so that  
11 someone else can speak next.

12 With that, we're going to start with the first  
13 person who signed up, George Logan.

14 MR. LOGAN: First, I want to thank everybody for  
15 coming down here tonight, and I see a lot of familiar faces.  
16 Appreciate all of that.

17 My name is George Logan, and it's G-e-o-r-g-e,  
18 L-o-g-a-n, and I'm representing Local 29 Ironworkers Union,  
19 all of Oregon and southern Washington State. I'm also a  
20 Vietnam vet and stand up for everyone for this country, and  
21 wish the best to everyone.

22 I'm here to represent Ironworkers to have this  
23 job and have the best talent they can have to do this job.  
24 I give job talks, and I've also taught at the  
25 apprenticeship, so you're getting the best bang for your

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1 buck whenever you're there.

2           Anyway, that's about it for me. I don't need  
3 three minutes to say thank you and it'll make a whole lot of  
4 money for everybody and get the community to work. Thank  
5 you.

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6           MR. FRIEDMAN: I'm going to call several speakers  
7 in a row, and we'll just line up, okay? So, next is Dennis  
8 Coplin, after Dennis is Richard Townsend, then Gil Freeland,  
9 and then Aaron Parker, and just line up in the middle, one  
10 behind the other so that we can move along quickly.

11           MR. COELIN: Good evening. My name is Dennis  
12 Coplin, D-e-n-n-i-s, C-o-p-l-i-n. I am the Director of  
13 Political and Legislative Affairs for UA 290, Plumbers and  
14 Steamfitters. I work on bringing projects in, working on  
15 projects like this. I'm a certified instructor. I teach  
16 our apprentices and our journeymen.

17           And with that being said, there are a lot of  
18 people in this area that need work, and they just can't find  
19 it. We have members in our union that have to travel to  
20 Portland and other places within our jurisdiction just to be  
21 able to find work. This job will provide viable training  
22 for those that have no training in the industry, bringing  
23 them up to a standard. Somebody had mentioned why don't we  
24 just hire people and put them out there to build these  
25 project?

PM5-2

PM5-1

Comment noted.

PM5-2

Comment noted.

PM5

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21

1           The last thing you want is somebody who's  
2 unskilled and does not know what they're doing in building  
3 this project because that's where you have problems. We had  
4 an experience where uneducated, untrained workforce tried to  
5 put a pipeline once before, and it was a disaster. We ended  
6 up having to come back in and fix it and bring it up to the  
7 standards to make sure it was safe.

8           We have the best trained people in the building  
9 trades, that including the operating engineers, the  
10 carpenters, and many other trades that you can think of.  
11 These people go from anywhere from three to five years of  
12 training to learn their craft. And even at that, they're  
13 not turned loose on their own to go out and build these  
14 projects. These people have supervisors that are trained  
15 and we put it in at the highest quality, the safest way,  
16 then environmentally safe as humanly known.

17           Now, can we do better? We will always do the  
18 best job we can, but we build it to the highest technology  
19 and to the best safety standards known to man. That's all I  
20 want to say. Thank you very much.

21           MR. FRIEDMAN: Thank you for giving your comment.  
22 Next is Richard Townsend.

23           MR. TOWNSEND: Richard Townsend, R-i-c-h-a-r-d,  
24 T-o-w-n-s-e-n-d, Pipefitter, Local 290. I want to yield my  
25 time to Dennis.

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22

1 MR. COPLIN: Excuse me. Dennis Coplin again.  
2 On a different subject, somebody brought up on  
3 yesterday night's meeting regarding the safety on pipeline.  
4 Pipeline is the highest safety standard known to man as far  
5 as moving a mass quantity of either a petroleum product or  
6 gas or chemical. It is the safest way of doing it.  
7 People talk about terrorists attacking it, things  
8 like this. They're going to first have to dig -- and  
9 they're worried about people going out there and digging it  
10 up. Everybody knows that, by law, you're required to dial  
11 8-1-1 and ask permission, even on your own property to dig a  
12 hole. So, go around digging up these pipelines, if you're  
13 doing it, you have other problems. But we need people to  
14 understand this is a safe means of transportation of the  
15 project. It is going to be run through property, and I  
16 would like to say when you end up running this through your  
17 property, we will build it safety. We will build it clean.  
18 We will work with you. And many times the property is in  
19 better condition after we left than it was before we got  
20 there. We work with you.  
21 Now, eminent domain, yes, it is an issue. No  
22 public project known to man in the United States would be  
23 built without some form of eminent domain. Some properties  
24 are owned by more than 50 people. Try to get 50 people to  
25 all agree to one thing, pretty hard to do. But when it's

PM5-3

PM5-4

PM5-5

PM5-6

PM5

Continued, page 22 of 115

PM5-3

Comment noted.

PM5-4

Comment noted.

PM5-5

Comment noted.

PM5-6

Comment noted.

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PM5

Continued, page 23 of 115

1 done, we ask that FERC, the owners of these projects to work  
2 with the owner to make an equitable and fair negotiated deal  
3 with those property owners. We want to see them prosper.  
4 We don't want to see them suffer, but a fact is fact. Some  
5 form of eminent domain will be used on this pipeline  
6 somewhere along it. It just is a fact. You wouldn't have  
7 any road. You wouldn't have any railroads. You wouldn't  
8 have any bridges. You wouldn't have any infrastructure in  
9 the United States without some form of eminent domain.  
10 Thank you.

PM5-6  
Cont.

11 MR. FRIEDMAN: Thank you for your comment. Next  
12 is Gil Freeland.

13 MR. FREELAND: Hi. My name is Gil Freeland,  
14 G-i-l, F-r-e-e-l-a-n-d, and I'm a 33 member of Local  
15 Plumbers and Steamfitters 290.

16 I'd like to talk a little bit about our safety as  
17 well, and the things we do to follow the rules. We have  
18 five different training schools throughout our jurisdiction  
19 in the State of Oregon. We train our people to the highest  
20 standards in the United States.

PM5-7

21 I would like to say a few things about pipelines.  
22 Pipelines in the State of Oregon alone transfer about 20,000  
23 miles of natural gas, oil, jet fuel, and very, very safely.  
24 And without all of these pipelines, our state would not too  
25 well. We need to have this type of thing to grow and to

PM5-8

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24

1 keep our state economy on the mend and on the upswing.

PM5-8  
Cont.

2 Thank you very much.

3 MR. FRIEDMAN: Thank you for your comment. I'm  
4 going to read a bunch of names here, Aaron Parker is next,  
5 then Art Cady, Carter Rose, and Ricky Iboa.

6 MR. PARKER: My name is Aaron Parker, A-a-r-o-n,  
7 P-a-r-k-e-r. I'm a third term steamfitter apprentice, Local  
8 290 out of Duathlon, Oregon. I just wanted to say thank you  
9 for everyone coming, and I am very lucky to be a part of  
10 this trade. It is my livelihood. I plan on -- I have  
11 goals, you know. I want to have a family, and I feel like  
12 this pipeline is something I can be proud of and I can show  
13 my family my future.

PM5-9

14 You know, I did -- it'll be a really cool feeling  
15 -- sorry -- a little bit nervous. Thank you all for your  
16 time.

17 MR. FRIEDMAN: Thank you for your comments. Next  
18 is Art Cady.

19 MR. CADY: Hi. My name is Art Cady, C-a-d-y,  
20 first name Art, A-r-t. I represent Plumbers and  
21 Steamfitters Local 290 in support of Jordan Cove and the  
22 pipeline projects.

PM5-10

23 I'd like to address some fears and misconceptions  
24 regarding construction and inspection. Coats for pipeline  
25 -- power piping and processed piping are very explicit.

PM5-11

## PM5

## Continued, page 24 of 115

PM5-9 Comment noted.

PM5-10 Comment noted.

PM5-11 Comment noted.

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PM5

Continued, page 25 of 115

1 They're very strict and set a very high standard, but a  
2 minimum standard. Union work always exceeds the minimum  
3 standards, which are already very high.

PM5-11  
Cont.

PM5-12

Comment noted.

PM5-13

Comment noted.

4 To those of you that are concerned about welds.  
5 I heard a speaker last night say they put less weld in the  
6 less populated areas. That's not true. It's absolutely not  
7 true. It's not possible. Welds are 100 percent inspected.  
8 Pipeline welds are 100 percent radio graft. A flaw on a  
9 pipeline as small as an arch strike on a pipe is a cutout.  
10 The remove the section of pipe and replace it with new.  
11 That is a fact. And please be assured that we have the  
12 highest quality craftsmen in the world.

PM5-12

13 I've been a US craftsman for 40 years. I've been  
14 a weld inspector for over -- well, a little over 12 years.  
15 I've worked in Europe. I've worked in South America. I've  
16 worked in Australia. And I've never seen finer welders and  
17 finer craftsmen than we have right here. I can guarantee  
18 you -- I'd like to put your fears to rest that if this  
19 project goes through, and I hope it does, that it will be  
20 exceeding the codes. Thank you very much.

21 MR. FRIEDMAN: Thank you for your comments. Next  
22 is Carter Rose.

23 MR. ROSE: I'd like to address, generally, the  
24 regulatory process. I'm aware that most of the projects  
25 that come before FERC are approved, over 90 percent. I may

PM5-13

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PM5

Continued, page 26 of 115

1 be wrong on that, but I was just given information about  
2 that from people that would imagine know.  
3 There was a very famous book written in --  
4 published in the 1930s by Walter Cannon called The Wisdom of  
5 the Body. And in that book a noted -- he being a noted  
6 physiologist at Harvard University talks about the extremely  
7 complex regulatory processes that go on within each of our  
8 bodies to make it possible for us to do, in part, what we're  
9 doing right now, listening to one another and speaking to  
10 one another.

PM5-13  
Cont.

PM5-14

Comment noted.

11 And then Loren Eiseley in the Invisible Pyramid  
12 written around 1970 -- published around 1970 reminds us that  
13 no such eloquent and complex regulatory system exists  
14 socially, but here we are. We're trying to do it right  
15 here, and I'm trying to give you information about --  
16 feedback information in a regulatory system.

17 I have professional background in what I'm  
18 talking about as an electrical engineer. We, as electrical  
19 engineers, are very concerned about safety of systems. The  
20 pipeline is a linear thing. It is being fed by the fracking  
21 processes, and there are a lot of legally-trained people  
22 that are backing away from the legal wrangling that is going  
23 on around fracking. And then Gary Snyder, the poet, reminds  
24 us several decades ago that it is unethical, especially from  
25 a scientific, ecological point of view to be transferring

PM5-14



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PM5

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1 water from one watershed to another. And I would add to  
2 that, as a corollary, that is unethical to be transporting  
3 energy out of where it's extracted from into other places  
4 where it's needed.

PM5-15

5 Now, you may disagree deeply with that, and yes,  
6 it would require a lot of lifestyle changes, but it  
7 certainly would be abiding by the life rules that the Earth  
8 itself, as a living organism, lives by. I also want to say  
9 that there is a last chapter, I believe 15, in the Power  
10 Elite, a book by C. Wright Mills, and he --

11 MR. FRIEDMAN: Mr. Rose, I ask that you wrap up  
12 now.

13 MR. ROSE: Yes.

14 MR. FRIEDMAN: And you may send the FERC  
15 detailed, written comments. So, thank you for your  
16 comments.

17 MR. ROSE: I will wrap up. Please give me an  
18 opportunity to wrap up.

19 In that chapter, the higher immorality, C. Wright  
20 Mills details the problems with higher corporate leadership  
21 and government leadership to do the right thing morally and  
22 value-wise.

23 MR. FRIEDMAN: Thank you for your comments.

24 Ricky Iboa, Chris Rusch, Jay Hamlin, and Wade  
25 Meyrick, and please line up behind the microphone so that we

PM5-15

Comment noted.

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1 can go quickly. And I would like to urge everyone to please  
2 stick to the three-minute rule so that we all get equal  
3 treatment. And if you have long, complex comments please  
4 send them to the FERC either electronically or in writing.

5 MR. IBOA: Hello. My name is Rick Iboa, I-b-o-a,  
6 and I'm the representative for Local 701, Operating  
7 Engineers.

8 Pacific Connector Pipeline will employ an average  
9 of 840 people for two years, with a peak of 1,400. The  
10 workforce that will build this line are the same people that  
11 build your road works, your sewer lines, public buildings,  
12 and school.

PM5-16

13 I've heard at all the meetings this week that  
14 safety is a big concern. We're professionals enough to  
15 build your schools and that we send our kids too, but for  
16 some reason we are not good enough to build gas lines. All  
17 of a sudden, we are a dangerous workforce. Every day  
18 natural gas, oil, gasoline, diesel, and jet fuel are  
19 transported through more than 20,000 miles of existing  
20 pipeline across the State of Oregon. Without this network  
21 building, our members and economy will be in big trouble.

PM5-17

22 This facility is proven and safe. This terminal paves a way  
23 for an average of \$25 million per year into taxes in Coos  
24 County, that the pipeline will page an average of 3 million  
25 per year in taxes in Coos, Douglas, Jackson, and Klamath

PM5-18

## PM5

## Continued, page 28 of 115

PM5-16 Comment noted.

PM5-17 Comment noted.

PM5-18 Comment noted.

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1 counties. That is a tremendous amount of money for those  
2 counties that have seen the revenue from the timber fall  
3 off.

4 This is money that will help provide better  
5 schools and more sheriff deputies. At nearly \$8 billion,  
6 the Jordan Cove and Pacific Connector will be the single  
7 largest private investment in the history of Oregon. As  
8 such, this project will create thousands of well-paying,  
9 union construction jobs with great benefits. Thank you.

10 MR. FRIEDMAN: Thank you for your comments.  
11 Next, is Chris Rusch.

12 MS. RUSCH: Good evening. I'm Chris Rusch,  
13 C-h-r-i-s, R-u-s-c-h. I'm here presenting South Umpqua  
14 Community Partnership. We are an organization dedicated to  
15 the restoration of the Upper South Umpqua and the salmon --  
16 the forest and the salmon.

17 So, we are not in favor of authorizing the  
18 Pacific Connector gas pipeline for the following reasons.  
19 It does not comply with the intent of the Northwest Forest  
20 Plan to protect our natural resources. It does not comply  
21 with the Clean Water Act, as it will exceed sediment loads  
22 and water temperature allowances.

23 The DEIS does not adequately address safety  
24 issues. There's evidence that rural areas have weaker  
25 pipeline safety standards, i.e., fewer welds are inspected,

PM5-18

PM5-19

PM5-20

**PM5**

**Continued, page 29 of 115**

PM5-19

The Project must comply with all laws or it will not be approved. See section 4.4 for water quality. Compliance with the Northwest Forest Plan is assessed in applicable sections of chapter 4, particularly in section 4.1.

PM5-20

Safety is addressed in section 4.13. Also see the response to IND1-7.

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1 thinner materials are allowed, and no inherent inspections  
2 are required on the pipeline once it is in the ground.  
3 Emergency services response time may not be adequate to  
4 protect rural areas.

5 This pipeline will take people's land against  
6 their will and will not give fair compensation. A  
7 for-profit pipeline built for resource export is not a  
8 national priority for energy, security, and must not be  
9 built using eminent domain for property acquisition. This  
10 violates the basic requirements of eminent domain.

11 The issue of temporary, extra work areas must be  
12 addressed with specific areas and land type identified. The  
13 EIS should state how many extra acres will need to be  
14 clear-cut for staging and work areas. We believe  
15 mitigations are inadequate. There is no backup plan for  
16 failed reforestation efforts, long-term noxious weed  
17 management, or management for riparian buffer. Mitigations  
18 are inadequate for raw plant and animal species, especially  
19 those protected under the survey management requirements  
20 under the Northwest Forest Plan.

21 The EIS does not discuss how the pipeline would  
22 influence the spread of wildfire. The application should  
23 consider the increased fire suppression costs and delays in  
24 fire suppression waiting for experts to arrive on the scene  
25 to give advice. The emergency response plan in the EIS is

PM5-20

PM5-21

PM5-22

PM5-23

PM5-24

**PM5**

**Continued, page 30 of 115**

PM5-21 See the response to IND1-5.

PM5-22 The acres that would be used for extra work areas are disclosed in several places in chapter 4; for example, see tables 4.1.2.2-2 and 4.6.1.2-2.

PM5-23 The DEIS includes extensive avoidance, minimization, and mitigation measures designed to minimize adverse effects. See, for example, the list of mitigation required by the BLM and Forest Service in chapter 2. The regulatory agencies, both federal and state, are expected to require additional mitigation. For example NMFS and FWS will require mitigation as part of their BO and the CORE will require mitigation for wetland impacts.

PM5-24 The DEIS addresses impacts the Pacific Connector pipeline may have on local fire departments in section 4.9.2.6. That section indicated that Pacific Connector has produced an Emergency Response Plan, a Fire Prevention and Suppression Plan, and a Safety and Security Plan. In addition, DOT safety regulations require the pipeline company to coordinate with local responders. Pacific Connector would provide appropriate training to local emergency service providers before putting the pipeline into service. Safety measures that would minimize risks of fires in forested lands are discussed in section 4.13.9.1 of the DEIS. Off-highway vehicle (OHV) controls are discussed in section 4.8.1.2 of the DEIS. Furthermore, FERC is not proposing this Project, the applicants are; FERC is a federal regulator of the Project and the lead NEPA agency.

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1 not adequate.  
2 Lastly, the EIS does not address Oregon statewide  
3 land use goals requiring conservation of the care and  
4 capacity of our air and water. Thank you.

5 MR. FRIEDMAN: Thank you for your comments. Next  
6 is Jay Hamlin, Ray Meyrick, Naomi Johnson, and Lennie Ellis.

7 MR. HAMLIN: My name is Jay Hamlin, H-a-m-l-i-n.  
8 I work for the Operating Engineers 701 as a field  
9 representative, but in 2010 I was on the Ruby line and I  
10 just wanted to tell everybody what I saw and witnessed on  
11 the Ruby line.

12 I just wanted to touch on the maintenance  
13 integrity of the pipeline. On the Ruby line, the major  
14 portion of the line was 540 weld, which is just over a  
15 half-inch thick. Then when it comes to roadways, the  
16 thickness jumps up to 800 weld, which is just over  
17 three-quarters of an inch thick.

18 As far as maintenance on the line, they send  
19 "pigs" through, and "pigs" is a computerized plug that goes  
20 through and it tells how thick the pipe is, how the coating  
21 is on the outside of it, what rocks are sitting on the  
22 outside, how far the rocks are from the outside of the pipe.  
23 It can tell you what metal is outside the pipe and what kind  
24 of metal it is. So, as far as maintenance after the pipe is  
25 in the ground, they can tell you what's going on inside the

PM5-24  
Cont.

PM5-25

PM5-26

PM5-27

## PM5

## Continued, page 31 of 115

PM5-25

As shown in table 4.14.3.1, the Project would disturb between 0 and 2 percent of any of the 19 fifth-field watersheds crossed by the project. On a state-wide basis, the disturbance would be very small. We do not believe that the level of disturbance, while important at the local level, would affect carrying capacity at the state level.

PM5-26

Comment noted.

PM5-27

Comment noted.

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PM5

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1 ground right outside the ditch.

PM5-27  
Cont.

2 And as far as Williams stating they're going to  
3 bring all of their hands to work, Rockford tried to do the  
4 same thing with Ruby. They tried bringing in all their own  
5 operators, and we stood up and said there's absolutely no  
6 way. Under our agreement, you can't bring in all of your  
7 workforce from outside the state, and the majority of the  
8 work was done by operating engineers. Thank you.

9 MR. FRIEDMAN: Thank you for your comments. Next  
10 is Wade Meyrick.

11 MR. MEYRICK: Wade Meyrick, W-a-d-e,  
12 M-e-y-r-i-c-k, and I'm a member of 290, and a  
13 multi-generation Oregonian, and my great grandmother's  
14 grandmother was born on this side of the trail in Oregon  
15 City.

16 I love my state. It's beautiful. And a lot of  
17 the things are people being afraid, and that's all right.  
18 One of my anthropology professors said it's whose ox is  
19 being gored. You know, if it's my ox -- I mean if it's your  
20 ox, it's, brother, I'm sorry. That must be rough. If it's  
21 my ox, it's Jesus Christ, my ox is being gored.

22 And a lot of you guys have eminent domain  
23 questions about your property, issues about safety, you  
24 know, the facility in Coos Bay. And I would just say that,  
25 you know, I'm an instructor. I teach a lot of these kids.

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PM5

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1 And I was back in Michigan with all kinds of other  
2 tradesmen, building trades people from all over the country  
3 and we're union tradesmen and we push ourselves to always be  
4 the best in all the codes for the ditches that that pipe's  
5 going to lie in, the coating on that ditch, the strength of  
6 it, the weld, everything. We do our best. That's why we  
7 have codes. We say -- it's called regulation. A lot of  
8 people in our country damn regulation. Well, regulations  
9 are good. Regulations that try to mitigate disasters and  
10 makes the thing safe, so from a safety perspective, as an  
11 Oregonian, I'm happy for the jobs and I'm happy with the  
12 safety issues. We do our best. If it's built by us union  
13 hands here in 290 and these other brothers, it'll be done  
14 right. If it's built by some fly-by-nighters, well then, I  
15 hope you guys bitch about that and insist it's not.

PM5-28

16 If it comes to eminent domain issues, every  
17 single pipeline that's ever been built had people just like  
18 you that were concerned about their property and the issues  
19 there. And I'm on your side. I want you to get the most  
20 money you possibly can and the best guarantees for safety  
21 and everything that you can. You know, get this stuff built  
22 by local people. 290 is a local union. These other locals  
23 are local unions. These are kids from all over this state.  
24 We have five apprentice training centers all over the state.  
25 When we do Coos Bay, we'll open that one back up.

PM5-29

PM5-28

Comment noted.

PM5-29

Comment noted.

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1 We have one there too, and we'd love to get a bunch of your  
2 kids into this trade. My degrees are anthropology and  
3 history, and I'm happy to be a union brother. This is  
4 something I can do, feel proud about, be part of the  
5 community. You know it's called -- I'm a rainbow warrior of  
6 living light. I love you guys. Do my best. And I don't  
7 have a problem with this. Understand some of you do, but  
8 the safety is being dealt with and get the best deal that  
9 you can when you strike for you land and let's get on  
10 together. This is Oregon. We're all in this together.  
11 Thank you very much.

12 MR. FRIEDMAN: Thank you for your comments. Next  
13 we have Naomi Johnson, then Lennie Ellis, then Lou  
14 Christian, and Mark Sundstrom.

15 MR. ELLIS: Did you have someone else before me?  
16 I'm Lennie Ellis.

17 MR. FRIEDMAN: Yes, Naomi.

18 MS. JOHNSON: Hello. My name is Naomi Johnson.  
19 I would like to thank the Federal Energy Regulation (sic)  
20 Committee and its esteemed panel members for their due  
21 diligence and their patience during the public comment  
22 period, as well as the Seven Feathers Casino for this forum.

23 I would like the record to reflect I asked that  
24 there would not be an extension granted for public comment  
25 period and the February 13, 2015 deadline stay because it's

PM5-30

PM5

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PM5-30

The FERC decided not to extend the 90-day period for comments on the DEIS past February 13, 2015.



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1 been seven years since this process began. I ask that you  
2 authorize the construction and operation of the Jordan Cove  
3 LNG plant and the Pacific Connector pipeline.

PM5-30  
cont.

4 I am a proud union member of the Laborers Local  
5 121, a daughter of a veteran, as well as a daughter of a  
6 retired Local 3 operating engineer. It is in the public's  
7 interest to construct and operate the Jordan Cove LNG plant  
8 and the Pacific Connector pipeline. As a union laborer, I  
9 am extensively trained, certified, and qualified in numerous  
10 pipeline construction activities.

PM5-31

11 Permanent employment at the Jordan Cove terminal  
12 and the Pacific Connector pipeline will include 146 direct  
13 jobs, 54 indirect jobs paid by Jordan Cove, which include  
14 the Sheriff's Department, fire duties, firefighters, tugboat  
15 crews, and emergency planners, 404 other indirect jobs and  
16 180 induced jobs for a total of over 700 and total family  
17 wage jobs in southwest Oregon. It's our turn. It's our  
18 time to boost the State of Oregon's economy and strengthen  
19 the job sector in southwest Oregon. Approve the Jordan Cove  
20 LNG plant and the Pacific Connector pipeline. Thank you.

PM5-32

21 MR. FRIEDMAN: Thank you for your comments. Next  
22 is Lennie Ellis, and after Lennie we have Lou Christian,  
23 Mark Sundstrom, and then Al Shropshire.

24 MR. ELLIS: My name is Lennie Ellis, L-e-n-n-i-e,  
25 E-l-l-i-s. I'm the business manager of IEBW, Local 659.

PM5

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PM5-31

Comment noted.

PM5-32

Comment noted.

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PM5

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1 Our jurisdiction is southern Oregon. And every one of the  
2 counties that you've listed is encompassed in our  
3 jurisdiction. We represent about 2,000 -- a little over  
4 2,000 members, probably around 3,000 lives there. And we  
5 have been talking about this project for over two years, and  
6 all of our members are in full support of the project moving  
7 forward. So, thank you.

PM5-33

8 MR. FRIEDMAN: Thank you for your comment. Lou  
9 Christian.

10 MR. CHRISTIAN: Thank you. My name is Lou  
11 Christian, L-o-u, last name is Christian, C-h-r-i-s-t-i-a-n.  
12 I'd like to thank the members of the committee, panel here  
13 tonight for listening to all of the concerns that are  
14 expressed by both people for and against. And I want to  
15 make sure that the process, even though we will benefit as  
16 plumbers and steamfitters, which I am a member of that local  
17 union and Local 290. And we do benefit directly with jobs  
18 that are created, and we also are members of the community.

19 We have many members that will be affected. This  
20 will run through their property, and we want to make sure  
21 that they get treated fairly and that all the people on the  
22 jurisdiction -- on the routes of the pipeline do get fair  
23 settlements and their property is treated well. We've seen  
24 what's happened in the past when poor quality and poor  
25 construction techniques were used by a company out of the

PM5-34

PM5-33

Comment noted.

PM5-34

Comment noted.

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PM5

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1 area that was unfamiliar with our situation here and  
2 performed very poorly on the 12-inch pipeline at Coos Bay.  
3 I just want to assure the people who are going to  
4 have this pipeline ran, if it is approved, that just like  
5 our other brothers have said, this is going to be done to  
6 the highest and safest standards. Thank you.

PM5-35

7 MR. FRIEDMAN: Thank you for your comment. Next  
8 is Mark Sundstrom.

9 MR. SUNDSTROM: My name is Mark Sundstrom,  
10 M-a-r-k, S-u-n-d-s-t-r-o-m. There's been, you know, plenty  
11 of talk from the union side of things about safety and  
12 quality, and you know, the economy and the jobs, so you  
13 know, what this is -- this is about the environment impact  
14 statement, so I'm going to take that direction here.

15 We have an environment in the global economy that  
16 is in dire need. It's in a freefall. There's CO2, CO,  
17 sulfur, mercury that's being emitted. You know there's  
18 pollutants being added to our atmosphere and to our rivers  
19 and to our streams, and we have an opportunity to make a  
20 change here and to make a transition.

21 Liquefied natural gas and the burning of natural  
22 gas rather than the burning of coal will make a substantial  
23 difference in the CO2 and CO emissions, the mercury in our  
24 streams that falls because it's carried over here by the  
25 trade winds.

PM5-36

PM5-35

Comment noted.

PM5-36

Comment noted.

PM5

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1 Our environment is in a freefall, and I liken it  
2 to as, you know, jumping out of an airplane and you're in a  
3 freefall, you know, you need a parachute. You need some  
4 plan that's going to help you not fall down and give you  
5 time to assess the safety of your landing and where you're  
6 going to end up, and if we just continue to plunge to the  
7 earth and we don't pull the ripcord and we don't use that  
8 parachute and take the opportunity to have a transition to  
9 cleaner fuels and to save our environment then we're just  
10 going to crash into the ground. You know, we need to pull  
11 that ripcord.

12 We can't be so concerned about whether we're  
13 going to wrinkle the suit we're wearing or how neatly that  
14 parachute's folded that we don't even do anything. So,  
15 doing nothing is not an option. I say that, you know, we  
16 need to make transitions with solar, with wind, with LNG.  
17 We need to take every opportunity we can to clean up our  
18 global environment. Thank you.

19 MR. FRIEDMAN: Thank you for your comments. Al  
20 Shropshire and then Mike Conaway and then Willie Myers and  
21 then Susan Evans and then Robert Lee, and if you could all  
22 be lined up ready to speak, I appreciate that.

23 MR. SHROPSHIRE: Yes, my name is Al Shropshire,  
24 S-h-r-o-p-s-h-i-r-e. I'm the business manager of Plumbers  
25 and Steamfitters Local 290. I represent 4,300 plumbers,

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PM5

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1 steamfitters, and pipeliners in the State of Oregon.  
2 And it's really my job to be their spokesman, but  
3 so many of them have got up here and spoke so eloquently  
4 here tonight that I'm only going to just make a few of the  
5 points because they've made most of the points that I was  
6 going to make already, and I thank them for it.

7 All of our members really do care about the  
8 environment and we also care about jobs. We believe that we  
9 can have both. We believe that we can have growth and  
10 protect our environment if these projects are engineered and  
11 constructed properly. Our members -- it's been said before  
12 tonight that our members we want the landowners to be  
13 treated fairly and for the environment to be protected.

14 The economic boost to southern Oregon and the  
15 increased tax base is in the public interest. Thank you.

PM5-37

16 MR. FRIEDMAN: Thank you for your comment. Mike  
17 Conaway.

18 MR. CONAWAY: Mike Conaway, M-i-k-e,  
19 C-o-n-a-w-a-y. I came here tonight to talk about the  
20 integrity of the pipeline and the pipeline is the only thing  
21 I'm going to talk about.

22 I'm a certified welding inspector on pipeline,  
23 and that's about what I've done for the last 50 years. I've  
24 welded on pipelines. I've inspected on pipelines now that  
25 I've got older, and I will tell you that the integrity of

PM5-37

Comment noted.

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PM5

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1 the pipeline will be in tact. These engineers that build  
2 these pipelines and lay them out know the stress. They know  
3 how to get rid of the stress by the way they lay the  
4 pipeline. The pipeline will have more that 4 feet of cover  
5 over it.

PM5-38

PM5-38

Comment noted.

PM5-39

Comment noted.

6 The welding and inspection these are all  
7 real-time x-rays that will be done on the welds. You can  
8 tell every minuet part of the weld. You can tell if the  
9 weld is low or whatever. You can tell that, and it's  
10 rejected, and when it's rejected it's repaired. This is all  
11 done before it's coated and laid in the ground. So, the  
12 integrity of the pipeline will be of its utmost. The  
13 inspection of the pipe and the manufacturing process is  
14 manufactured under standards that are set 10 years ago, 15  
15 years ago and always kept up.

16 You'll have a bar code on every piece of pipe.  
17 You'll know the heat number. You'll know every detail about  
18 that pipe. You'll tell how many piece of iron was put into  
19 the pot that made the plate, that made the roll, and the  
20 seam on the pipe will be x-rayed, and any flaws in that it  
21 is cut, sent back to the smelter, melted down again. So,  
22 the quality of the material going into the pipeline is the  
23 best. There's no flaw to it.

24 And I can tell you that when they lay that  
25 pipeline and it's down to Coos Bay the people that they

PM5-39

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PM5

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1 cross the land they will cross that land, they'll put that  
2 land back together again. They'll take all the topsoil off  
3 to one side and put all the lower material back into the  
4 ditch, put the topsoil back on and make it a park. And the  
5 Forest Service and those people will make sure you get the  
6 right kind of grass growing on top of the scar that they've  
7 left. And in about less than a year, you'll see that it's  
8 like a park in there.

PM5-39

9 And so -- and I've laid too many miles of  
10 pipeline to not know what I'm talking about. You have any  
11 problem with it go up to the Portland area, go talk to the  
12 farmers up there that was growing trees and how we left  
13 their property. Thank you.

14 MR. FRIEDMAN: Thank you for your comment.  
15 Willie Myers.

16 MR. MYERS: Good evening. My name is Willie  
17 Myers. I'm the executive secretary treasurer of the  
18 Columbia Pacific Building Construction Trades Council  
19 representing more than 15,000 of the most skilled working  
20 craftsmen and women in the Northwest, in the world.

21 This project will help stop -- excuse me -- will  
22 help us recover from one of the worst recessions our country  
23 has ever seen. The construction industry saw unemployment  
24 rates of higher than 50 percent in some of the crafts in the  
25 building trades that Columbia Pacific Building Trades

PM5-40

PM5-40

Comment noted.

PM5

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1 represents. A lot of those members lost their homes, lost  
2 their families, had to move out of the area, and this is an  
3 opportunity to rebuild the southern part of our state in a  
4 way that will employ those skilled men and women of the  
5 construction industry.

6 We need this project. It's an \$8 billion  
7 investment -- nearly \$8 billion investment into an economy  
8 that's going to have a ripple effect. It is going to affect  
9 many other businesses as well positively. There is a great  
10 example of that in Hillsboro in Gresham, which is about as  
11 far apart as Coos Bay and Gold Beach, basically.

12 So, there was a construction project that was an  
13 investment of over \$7 billion called Intel out in Hillsboro,  
14 Oregon. And there was manufacturer trophies in Gresham,  
15 Oregon that survived the last recession because 60 percent  
16 of their business was because the Intel Project that was a  
17 county across, a county away from where they were located.  
18 Two separate counties and it was an economic boost that will  
19 generate a lot of success in this region.

20 So, for that reason, Columbia Pacific Building  
21 Trade hopes that we move this process forward -- and both  
22 these projects, the LNG facility and the pipeline both get  
23 built. Thank you.

24 MR. FRIEDMAN: Thank you for your comment. Next  
25 is Susie Evans.



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1 MS. EVANS: Susan Evans, E-v-a-n-s. Firstly, I  
2 am in full agreement with the comments and concerns already  
3 expressed by Chris Rusch of CIRCA. And I do request a  
4 comment extension to review the over 5,000-page DEIS  
5 document.

PM5-41

6 Just a few other points, 90 percent of the 300  
7 affected private landowners have said no to the use of their  
8 land for this pipeline. The Canadian company, Veresen, a  
9 private company -- is a private company.

PM5-42

10 FERC's rural, Class 1 standards will save money  
11 for this private company while subjecting any and all  
12 families, visitors, and area tourists to high risks and low  
13 safety precautions. It is therefore vital that the safety  
14 standards must be made equal for rural and urban areas.

PM5-43

15 Another point, the instability of the sand dunes  
16 on which the LNG terminal would be built is long overdue for  
17 an earthquake and Tsunami, and has been expressed by OSU  
18 geologist. Another point, I just certainly agree that the  
19 DEIS is not dealing adequately, if at all, with wildfire  
20 concerns.

PM5-44

PM5-45

21 MR. FRIEDMAN: Thank you for your comment. Now,  
22 I do want to make a point of clarification. There seems to  
23 be some more misconceptions out there. The safety standards  
24 you just mentioned in terms of classes along a pipeline are  
25 not issued by the Federal Energy Regulatory Commission.

## PM5

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- PM5-41 The FERC decided not to extend the 90-day period for comments on the DEIS past February 13, 2015.
- PM5-42 See the response to IND1-5.
- PM5-43 See the response to IND1-7.
- PM5-44 Seismic effects are discussed in section 4.2.2.2 of the EIS. Also see response to IND1-4 and PM3-46.
- PM5-45 Wildlife are addressed in detail in sections 4.6 and 4.7.

PM5

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1 They are, in fact, standards issued by the U.S. Department  
2 of Transportation.

3 Next we have Robert Lee, then Robert Camarillo,  
4 then John Clarke, and then Clarence Adams, so please line up  
5 so you're ready to speak. Mr. Lee.

6 MR. LEE: I've seen fire and I've seen rain. In  
7 1987, a horrific firestorm went through our community, and I  
8 lost my home, all my belongings, and my small business. I  
9 also have a lot of good friends that are electrical workers  
10 and I'm familiar with all the information about pipe welding  
11 and so forth, but I've seen a lot of fires in the locality  
12 where I live from lighting and inadvertent and inapt human  
13 carelessness.

14 Now, in 2004, never say never, I had a fire, same  
15 pathway, human error, went through, nearly burned my house  
16 down, burned equipment. So, to some of these people that  
17 say that it's really safe, yes; I understand how it is, but  
18 never say never. So, what I'm concerned about is some of  
19 the rural safety because if there was a mega firestorm  
20 because right behind the Bland Mountain 1 and the Bland  
21 Mountain 2 to the southeast there are more spotted owls and  
22 cougars. I'm not concerned about whether they get burned or  
23 not. I'm more concerned about a firestorm of such magnitude  
24 that the people in Medford would really be frightened  
25 because if you get to be 100,000 acres you're not going to

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1 stop this.

2 So, I'm concerned about mitigation at least in  
3 the lowest level of assisting local fire departments and  
4 districts. And somewhere into the future -- I don't want to  
5 be when I'm 77 in 10 years or 87, I don't want to be  
6 stamping out fires like beyond Michael Flatly of Lord of the  
7 Dance, which I put him to shame, running faster than Ichiro  
8 with an inside the park homerun. I don't want to have to do  
9 that again.

10 Now, I'm not really paranoid. I'm just cautious,  
11 anxious, with a little bit smoke phobia anxiety; but I would  
12 like to see more addressing the worst possible case  
13 scenario. I don't really think it's going to happen, but  
14 if. So, I would also like to see an extension.

15 I read PDF documents all the time, and  
16 neurophysiology and molecular biology, but I find it hard to  
17 navigate the 5,000 pages and the different -- like you say,  
18 the three different segments of it. So, that's about all I  
19 have to say. I thank you for your time.

20 MR. FRIEDMAN: Thank you for your comment.  
21 Robert Camarillo.

22 MR. CAMARILLO: It's Robert Camarillo,  
23 C-a-m-a-r-i-l-l-o, and I'm here on behalf of all the  
24 Ironworkers Local 29 and Ironworkers Local 516. We  
25 represent about 3,000 throughout the State of Oregon. And

PM5-46

**PM5**

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**PM5-46**

The DEIS addresses impacts the Pacific Connector pipeline may have on local fire departments in section 4.9.2.6. That section indicated that Pacific Connector has produced an Emergency Response Plan, a Fire Prevention and Suppression Plan, and a Safety and Security Plan. In addition, DOT safety regulations require the pipeline company to coordinate with local responders. Pacific Connector would provide appropriate training to local emergency service providers before putting the pipeline into service. Safety measures that would minimize risks of fires in forested lands are discussed in section 4.13.9.1 of the DEIS. Off-highway vehicle (OHV) controls are discussed in section 4.8.1.2 of the DEIS. Furthermore, FERC is not proposing this Project, the applicants are; FERC is a federal regulator of the Project and the lead NEPA agency.

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1 even though they're not here tonight, I guarantee you  
2 they're in favor of this project. We're here to urge you to  
3 keep moving this project forward. We're talking about a \$7  
4 billion project, not a 7 million.

5 Just imagine the opportunities that this project  
6 is going to bring to this area. We probably won't see  
7 another project of this magnitude come through this region  
8 in our lifetime. You know, when I came in I dropped -- I  
9 pulled in and I talked to one of the casino workers and I  
10 asked him, you know, hey, how do you feel about this project  
11 being built in this area.

12 And he said, hey, you know, I haven't made up my  
13 mind, but if it's going to bring jobs I think I'm going to  
14 support it, he said. Is there any chance I can get a job on  
15 there? I said who knows, you know, there's a possibility,  
16 but we need to get this job built.

17 You know, we're talking about some of the most  
18 highly trained professionals that are going to be out there  
19 working on this project. We spend millions annually  
20 training our building trade folks. We're not talking about  
21 amateurs. You know, it's not right for these people that  
22 live in this community to have to travel to Portland, travel  
23 to California to go to work. They should be able to work in  
24 their communities. You know, they want to come home to  
25 their families just the ways we do.

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1           You know, it's easy for us. We have jobs, but  
2   what about these people that don't have the opportunity that  
3   you and I have. So, again, just deliver a favorable  
4   recommendation and let's get this project built. Thank you.

PM5-47

5           MR. FRIEDMAN: Thank you for your comment. John  
6   Clarke and then Clarence ready to go up afterwards.

7           MR. CLARKE: Clarke, C-l-a-r-k-e, milepost 60.  
8   The first document is an email. The board of directors in  
9   Douglas County asked the same question that was asked last  
10   night about how much gas is going to be delivered, and this  
11   is an email that verifies that it's 40 billion cubic feet of  
12   gas.

13           The second page shows that there is a odorizing  
14   station at Clark branch because it has to be odorized to  
15   drop into the domestic market.

16           The next document is a contract between -- and it  
17   says there. It says that it's between Jordan Cove and the  
18   County of Coos Bay. It was exercised in 2007 by the date.  
19   There's nothing on the next page, but on page 2 there's some  
20   highlighted stuff and -- sorry -- it says --

21           COURT REPORTER: Speak in the mike, sir.

22           MR. CLARKE: Oh, sorry. The interconnection, you  
23   know, it's going to connect to the Pacific Connector  
24   pipeline. Then it gives a definition of the pipeline and it  
25   says that it goes from the Grand Pass Lateral just in the

PM5-47

Comment noted.

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1 vicinity of Roseburg to Coos Bay, Oregon and the manager of  
2 the pipe is Northwest Natural Gas.

3 Then the next line shows it is for a firm  
4 transportation of 40 million cubic feet gas. They're  
5 putting 40 million cubic feet of gas in and they're taking  
6 it out and shipping it down to the 12-inch pipeline. So,  
7 the answer to that question is that there is no gas for  
8 Douglas County because it goes and it comes out.

9 The other is the contract. To make it a valid  
10 contract shows that Coos Bay got \$200,000 to exercise this  
11 contract. They get \$25,000 a month for this contract, and  
12 that when they break ground they'll get another \$200,000.  
13 That's about all there is on that.

14 The next is some engineering, and that  
15 engineering shows a bridge, and that bridge shows you two  
16 pipes on it. One of them is labeled "process gas," the  
17 other one is fuel gas. You cannot liquefy odorized gas, so  
18 they keep it separate. The next page on there shows a  
19 bridge that crosses the wetlands. You'll see the power  
20 plant, and it is to the east of where it crosses the bridge.  
21 So, that gives you an idea that this pipe that they're  
22 showing in the diagram is to the west.

23 So, the 36-inch pipeline is already of gas  
24 already gone through a dehydrator and it's on its way to the  
25 liquefaction freight. The gas in the 12-inch pipeline is

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1 coming from the west to the east, and it is the fuel gas  
2 that runs the power plant.

3 Next is just some pictures, and those pictures  
4 are where that 12-inch pipeline crosses Coos Bay. There's  
5 out on the north spit there's a sign that says "You are  
6 here" and that's what that shows, and it's right there at  
7 the end of the pavement. So, if you went down and drove  
8 that when the pavement ended -- and so if you go to the next  
9 picture and the next picture shows the gas marker, the  
10 yellow pipe, and in the background of it you'll see the back  
11 of a sign. The next pictures show what that sign says, and  
12 it says "The pipeline." Those are mirrored things, one on  
13 each side of the entrance to the harbor.

14 So, the pipeline, the 12-inch pipeline is already  
15 in the ground. It is capped. It has one customer comes off  
16 of it with a 4-inch pipe. As soon as they put that gas in,  
17 they'll take it out, and part of that -- the process should  
18 include that 12-inch pipeline. That's all I have. Thank  
19 you.

20 MR. FRIEDMAN: Thank you, Mr. Clarke. Next is  
21 Clarence Addams. After Mr. Adams is Pat Lara, Steve Burger,  
22 Liz Matteson. I would like everyone to line up behind Mr.  
23 Adams so that we can speak quickly.

24 Clarence, the floor is yours.

25 MR. ADDAMS: Clarence, C-l-a-r-e-n-c-e,

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1 A-d-d-a-m-s. I represent Landowners United and 3,000 family  
2 members who are affected by this pipeline, and myself an  
3 affected member, milepost 55.8.

4 These hearings are premature. I believe the  
5 reasons for these hearings to be held early in the comment  
6 period is because better research, more in depth comments --  
7 oral comments, I might add, would be heard by other  
8 opponents who could build on them. This also allows the  
9 applicants to get a head start on developing counter  
10 agreements or arguments for the adverse comments. I suggest  
11 hearings later on in this comment period when you withdraw  
12 the current EIS for the following reasons.

13 The current DEIS is, at best, an incomplete  
14 document. There are no less than 16 items required by FERC  
15 to be submitted by the applicants before the end of the  
16 comment period. I presume these will be submitted a day  
17 before. They include a migratory bird conservation plan, a  
18 full spill plan, a spill prevention, containment, and  
19 counter-measure plan for non-federal lands, the final  
20 mainline lock valve locations with temporary and permanent  
21 roads identified, the methodology used for classifying high  
22 quality wetlands, a stream crossing wintering plan, and a  
23 habitat mitigation plan for impacts on non-federal land.

24 There are also 25 conditions that need to be met  
25 before construction begins, including final geotechnical

PM5-48

PM5-49

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The public meetings are one method for people to comment on the Project. They can also comment in writing or via email up until the last day of the 90-day comment period. All comments carry the same weight.

PM5-49

This is a draft; additional studies and data will be included in the final EIS. One purpose of a DEIS is to identify additional information needed, often due to public or agency comments on the DEIS.



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1 data and location mitigation method, seismic stability  
2 calculations and design control assurance procedures, final  
3 wetland mitigation wetland plan, a plan to reduce lighting  
4 affects on wildlife, a monitoring and adaptive management  
5 plan for protection of pinnipeds, consultation with the FAA  
6 for safe use and preservation of navigable air space, and a  
7 Jordan Cove emergency response plan.

8 On top of all those there are at least 26  
9 conditions before a final design of facilities. It appears  
10 none of these will be subject to public scrutiny and  
11 comment. I recommend FERC follow the NEPA rules it purports  
12 to uphold, withdraw this document for one that meets the  
13 requirements and allows the full public review.

14 MR. FRIEDMAN: Thank you for your comments. So,  
15 the next speakers are Pat Lara, Steve Burger, Rose Matteson,  
16 Paige Heron, and then M.A. Hansen. And after Ms. Hansen  
17 speaks, we'll take a five-minute break.

18 MR. LARA: Pat Lara, L-a-r-a is the last name.  
19 I'm with the Boilermakers Local 242, Portland/Spokane.

20 Where to start? Expert professional --

21 COURT REPORTER: Speak in the microphone, please.

22 MR. LARA: What's the difference, right? An  
23 expert he's done it more than once. Professional ^^^^

24 COURT REPORTER: Microphone.

25 MR. LARA: -- he does it for a living. That's

PM5-50

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**PM5-50**

The FEIS will disclose the environmental effects of the Project. It is not a decision document. The FEIS will likely include additional requirements that must be met during final design. The Commission will consider the effects disclosed in the FEIS and the additional information submitted with the final design prior to authorizing construction. Full surveys and design cannot be completed until the applicant gains access to the entire route. Currently they have not been permitted to survey most private lands.

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1 what I am, a professional. I do this for a living. I'm  
2 very passionate about my skill set. One of those skills is  
3 welding, okay.

4 I'm going to be training kids drawn from this  
5 area to this facility and put that same passion that I give  
6 to them towards that welding that's going to power this job  
7 to make you guys comfortable. I guarantee you somebody in  
8 this room is going to be affected and is going to prosper  
9 from this job because of those very same reasons.

10 This pipeline isn't just a pipeline coming  
11 through here. It's a lifeline for this community. I'll  
12 give you an example. I stopped into Canyonville, and I  
13 talked to a lady that has four sons. None of them are  
14 working. She is not working. She was so excited to hear  
15 that there was an opportunity like that in this area. And I  
16 handed out four business cards and she's going to be calling  
17 me to apply herself into this apprenticeship program.

PM5-51

18 So, I urge you guys to kind of think bigger than  
19 just a pipeline coming through here. Think of the benefits  
20 this is going to bring to your community. Thank you.

21 MR. FRIEDMAN: Thank you for your comments. Next  
22 speaker is Steve Burger.

23 MR. BURGER: Steve Burger, S-t-e-v-e,  
24 B-u-r-g-e-r. I'm too with Boilermakers Local 242 out of  
25 Portland/Spokane.

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1           We've got a training center in Portland and one  
2   in Spokane. There's probably going to be a lot of jobs. I  
3   heard some comments the other day, the other evening about  
4   all these workers or transient workers that are going to  
5   come in here and they're going to leave. Yes, that's true.  
6   A lot of us will leave, but isn't just going to be providing  
7   jobs for this project. There are going to be other  
8   infrastructure jobs.

9           I mean we when we're here we got to go shopping.  
10   That entails hiring more people to work in the grocery  
11   stores. We buy gas. That means more people work to provide  
12   jobs at gas stations, restaurants, you know. And then when  
13   the project's over in four years a lot of the people might  
14   -- a few of the people might decide to stay in this area  
15   because they like the area. They like the fishing. They  
16   like the dunes. They like the sports, you know, and that's  
17   going to rejuvenate the jobs around this area.

18          So, I just want to say that this isn't just going  
19   to provide temporary jobs for this, but it could provide  
20   long-term jobs and more economy to this area. Thank you.

PM5-52

21          MR. FRIEDMAN: Thank you for your comment. Next  
22   speaker is Liz Matteson.

23          MS. MATTESON: My name is Liz Matteson, L-i-z,  
24   M-a-t-t-e-s-o-n, and I agree that we need to think bigger  
25   and more long-term, but I come from a different angle.

PM5-52

Comment noted.

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54

1 The Draft EIS does not take into full  
2 consideration the public's need for this project, nor  
3 address what the significant public benefit of this project  
4 would be that would offset all the negative impacts to the  
5 forests, the rivers, the streams, and the health and the  
6 welfare, and the safety of the citizens of Oregon.

PM5-53

7 The Draft EIS fails to consider the impact of  
8 increased herbicide that will be aerially sprayed to  
9 maintain the 230-mile, 90-foot wide corridor, herbicide that  
10 would increase the toxic load on our watersheds, and that's  
11 a long-term impact, impacting the health of our citizens,  
12 the Oregon citizens. And a lot of people don't connect the  
13 dots to why there's so much cancer. I personally believe  
14 there's a lot of cancer because of the toxins in our  
15 environment and herbicide is one, and I would like to see  
16 not so much herbicide. If there was a way -- if this  
17 proposed pipeline is actually built, I would love it if  
18 there was a way to maintain the corridor without herbicide.

PM5-54

19 What is the public need to undertake such a  
20 project, and that's part of the Draft EIS, page 4163, states  
21 that you need to address the public need.

22 A lot of things have already been -- I've crossed  
23 out a lot of things that have already been mentioned by  
24 Chris Rusch and Susie Evans and Robert Lee Evans pointed out  
25 the impact of wildfire in our region. If there was to be a

PM5-55

## PM5

## Continued, page 54 of 115

- PM5-53 The FEIS does not determine the public benefit of the project; this is determined by the Commission. The EIS discloses the environmental effects of the project.
- PM5-54 Restrictions and proper use of herbicide during the Project's construction and operation, as well as its effects, are addressed in section 4.5 of the DEIS.
- PM5-55 See the response to IND1-2. See the discussion of risks in section 4.13.

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1 leak, then the resulting explosion would not impact just a  
2 few rural citizens, it would impact a large number of rural  
3 citizens.

PM5-55  
Cont.

4 And then as far as job, I totally support people  
5 having jobs in Oregon and totally support the fine work that  
6 I've been hearing people are saying that they do in the  
7 unions, but what I've also heard is there's no benefit to  
8 Americans and the higher energy costs that would result due  
9 to this proposed project. The gas that would enter the  
10 proposed Pacific Connector gas pipeline would all be used  
11 for export, with profits going to foreign investors.

PM5-56

12 Exporting natural gas would cause our prices to compete on  
13 the world market. So, this is the key that it would raise  
14 our natural gas prices by up to potentially 25 percent and  
15 electric bills potentially by 3 percent, which would  
16 threaten U.S. jobs where factories depend on natural gas.

17 The Department of Energy has determined that  
18 exporting natural gas could cause up to 1.2 million  
19 manufacturing jobs to be lost to overseas factories. So,  
20 that's kind of a long-term view of the impact of this  
21 project on jobs.

22 On the other hand, the Jordan Cove Project would  
23 generate only about a hundred permanent, full-time jobs for  
24 local workers. So, there'd be a lot of jobs for people in  
25 the next four years and then it would dry up again.

PM5-57

**PM5**

**Continued, page 55 of 115**

**PM5-56**

A 2012 study by the Energy Information Administration (EIA) of the U.S. Department of Energy (DOE) stated: "...U.S. natural gas prices are projected to rise over the long run, even before considering the possibility of additional exports." Another 2012 study by NERA Economic Consultants for DOE found that the nation is "...projected to gain net economic benefits from allowing LNG exports."

**PM5-57**

Section 4.9 includes estimates of employment and taxes that would result from the project. Most jobs would be associated with construction. Table 4.9.1.4-2 estimates 145 direct jobs and 445 indirect jobs associated with operation of the terminal in Coos County. The pipeline is estimated to create about 9 permanent jobs (page 4-816). Tables in section 4.9 also disclose the number on construction jobs, which are considerably higher. As for the comparison with Malin, we are not aware of an LNG terminal having been built in Malin.

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1 MR. FRIEDMAN: Okay, so your time is up and so we  
2 have the next speaker. Thank you for your comments.

3 MS. MAITESON: One more thing, I also want the  
4 comment period to be extended. We need to extend that.

PM5-58

5 MR. FRIEDMAN: The next speaker is Paige Heron.  
6 And I'm going to reiterate that we do need everyone to stick  
7 to the three-minute period so then every speaker can speak.

8 MR. HERON: Good evening. My name is Paige  
9 Heron, and I'm the son of Selena Heron and Marcus Abran.  
10 And my people came to this land a couple of generations ago,  
11 but I was born in this land and this is a land that I'm  
12 responsible to and responsible for.

13 And I'm really grateful to all of you in this  
14 room for coming and speaking and being here representing  
15 your families and representing the people that you care for  
16 because we're the people that need to work together and  
17 regardless of what color shirt you're wearing, I'm grateful  
18 to see you.

19 And I'm grateful to you for doing the work that  
20 you're doing to try and do the best job that you think you  
21 can, and I salute you for that.

22 I live down the river, about a mile down the  
23 river from where the proposed pipeline will go under -- I  
24 believe it's under the South Umpqua River and therefore I'm  
25 affected, though not directly, but directly. It's my hope

PM5

Continued, page 56 of 115

PM5-58

The FERC decided not to extend the 90-day period for comments  
on the DEIS past February 13, 2015.

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1 and my prayer that the people here that our people will be  
2 able to be here for more than just this generation and more  
3 than just the generations that we'll see. And the years of  
4 profit, monetary profit that this project will bring will be  
5 few. And I don't see the benefit extending beyond that. I  
6 see a lot of harm being done. And while there will be  
7 monetary profit for a few families, for many thousands of  
8 families even, where does that go and where is that going to  
9 take us, and how is it going to take us to a model that will  
10 live beyond that?

11 I hope that we'll be around, but I don't see a  
12 lot of signs that say that we will. And so I am entreating  
13 all of you to keep that in mind when you make decisions, and  
14 thanks again for being here.

15 MR. FRIEDMAN: Thank you for your comment. Next  
16 is M.A. Hansen, and after Ms. Hansen we're going to take a  
17 short break, five minutes. And after that it'll be Anthony  
18 Ladd's turn to speak.

19 MS. HANSEN: Hi. I'm M. A. Hansen.

20 Anyway, I hold a degree in environmental studies  
21 and planning. I can ride (sic) DIS. I agree with everybody  
22 here that talked on the EIS. Everything they said is a  
23 problem with this, and I don't even want to go into that.

24 The LNG pipeline -- now, I'm speaking from my  
25 environmental studies degree. Liquefied natural gas has

PM5-59

PM5-60

## PM5

## Continued, page 57 of 115

PM5-59

Comment noted.

PM5-60

Comment noted. We are not aware of studies that prove LNG is more detrimental than coal.

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PM5

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1 been proven to be far more detrimental than coal. Oregon  
2 has already passed a law to stop the use of coal in their  
3 electricity. We do not like coal here, so I'm not for coal,  
4 but LNG gas is more detrimental.

PM5-60  
Cont.

5 I traveled with -- I traveled to all four of the  
6 counties that this pipeline is proposed to go through and I  
7 was at every meeting that FERC put on, that the project  
8 managers put on. I asked the project managers -- this is to  
9 you people who think you're going to get jobs. You're  
10 dealing with people that have lied to us time and again.

11 I have been doing this for eight years, sometimes  
12 day and night fighting this pipeline. It does not go across  
13 my hundred acres. It's wrong. I am a concerned citizen.  
14 It's wrong. That's why I'm fighting it. I have been told  
15 -- let's see, I asked the project managers -- we made them  
16 stand up on stage to answer us all at once.

17 I asked them how many jobs that this pipeline  
18 would provide -- the pipeline and the terminal I talked --  
19 would provide for Oregonians. Oregonians who are today  
20 Oregonian, not someone you bring in to make an Oregonian.  
21 They were shocked. And they looked at each other for quite  
22 a while, and they finally come up with the answer six jobs.  
23 That's after it's built. Oh yeah, they also said that they  
24 would not hire Oregonians to build this pipeline because  
25 Oregonians -- this is a quote "Because Oregonians don't know



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1 how to make pipelines. We're bringing in people for  
2 Oklahoma." That's what they said. This is the same people  
3 you're dealing with people, and they have told us so many  
4 lies over the years.

5 Also, this is going to be a negative job project.  
6 It's going to wipe out the fish industry in Coos Bay. As  
7 those ships are in the harbor, they cannot go out to fish.  
8 Those ships are in the harbor almost all the time when they  
9 said how many are coming in, and they can't go out to fish  
10 because the security around those ships is keeping everybody  
11 from going out into the bay. And so --

12 MR. FRIEDMAN: Ms. Hansen, your time is up.

13 MS. HANSEN: It's because it's the biggest  
14 terrorist threat that you can have in your harbor, and that  
15 is on record.

16 MR. FRIEDMAN: So, we're going to tell you to --  
17 thank you for your comments.

18 We're now going to take a short, five-minute  
19 break. And then the next speaker after the break is Anthony  
20 Ladd.

21 (Whereupon, a short recess was taken.)

22 MR. FRIEDMAN: I'd like everyone to come back  
23 into the room and sit down and take your places and quiet  
24 down so that we can hear the next speaker, Anthony Ladd.

25 Anthony Ladd, can you please come to the

PM5-61

PM5-62

**PM5**

**Continued, page 59 of 115**

**PM5-61**

The harbor would not be closed to fishing simply because an LNG ship was docked at the terminal. As stated in section 4.9.1.7, LNG vessels would only transit in the waterway to the terminal at slack high tide, during daylight hours. According to ECONorthwest (2012e), if 90 LNG vessels visited the Jordan Cove terminal each year, there would be 60 hours total during a year when an LNG vessel would be present in the waterway (0.68 percent of the time). The sum of the time that LNG vessels may be transiting within the Coos Bay navigation channel would be about 1.3 percent of daylight hours. Thus, it appears that LNG vessel marine traffic to and from the Jordan Cove terminal would have negligible potential to affect recreational boaters and other users of the bay.

**PM5-62**

Table 4.13.9.2-2 of the DEIS shows the various causes of outside force incidents on natural gas pipelines as recorded by the USDOT between 1994 and 2013. Included in these statistics is "intentional" damage, which would include an attack. As shown in table 4.13.9.2-2, there was one incident of intentional damage to natural gas pipelines during this time period, or 0.1 percent of all recorded incidents.

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PM5

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1 microphone.

2 Okay, I'd like everyone to come into the room.

3 Paul Uncapher can you close the door in the back, please.

4 Paul Aquafer, can you close the door in the back, please?

5 Donna, can you close the door in the back?

6 I'd like for everyone to come back into the room

7 and quietly take their seats, and we're going to restart.

8 So, the good news is everyone got a bathroom break and the

9 bad news is it takes some time to reconvene.

10 All right, after Anthony Ladd is Stacey

11 McLaughlin, Ann Chamberlain, and Jeffrey Wooster, and then

12 Bill Gow. If you guys could line up at the microphone,

13 we'll proceed quickly. Mr. Ladd, at your convenience.

14 MR. LADD: Anthony Ladd, A-n-t-h-o-n-y, L-a-d-d,

15 representing Ironworkers Local 751, Pacific Northwest

16 District Council, Alaska.

17 Real quick, before I start, I just want to

18 clarify about the fishing boats, especially down here. As

19 far as having to take your boats out of the water, and

20 you're going to lose your fishing is not true. What will

21 happen is you'll have to move out of the way and let the

22 boats pass through. It'll all be choreographed and well

23 rehearsed.

24 We ran into the same problem in Alaska with the

25 whaling. I'm from Alaska, born and raised, and I still live

PM5-63

Comment noted.

PM5-63

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1 in Alaska. I'm not down here looking for a job. I'm  
2 gainfully employed from the pipeline that was built 30 years  
3 ago that everybody said wouldn't produce any jobs.

4 And to speak on that one, we have built a  
5 pipeline in the harshest environment that you can do it in,  
6 and it is successful. It's done. It's completed, and not  
7 to industry standards, above industry standards. I listened  
8 to these gentlemen talk. They're all right. They perform  
9 their work above industry standards, and something to think  
10 about.

11 A real quick point, rural, my whole state is  
12 rural. The whole state is rural. There's codes of conduct  
13 in rural areas is absolutely false. It can't be done that  
14 way. And one thing to think about, no one wants to build  
15 this pipe for it to leak all over the place and have to  
16 rebuild it. It just doesn't do it. The guys you're dealing  
17 with and the hands that will build this pipeline do it above  
18 industry standards.

19 Me, personally, I would focus on who's going to  
20 build it, not when it's built because that's the problem.  
21 If you don't have these gentlemen, these union ironworkers,  
22 pipefitters, boilermakers building it, that will be the  
23 problem. But I guarantee you or I've seen with my own eyes.  
24 For 30 years, I'm the byproduct of the pipeline. My father  
25 built it. My grandmother was against it. Imagine Christmas

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PM5

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1 at that house.

2 And then I jumped on it. I've built more than

3 one pipeline up there in Alaska, and by far, it's the

4 lifeline of my state. It's literally the backbone. It's

5 something you guys got to think about. It's not just today.

6 It's going to be the longevity of it. And I say act, don't

7 react. By now we're fighting this so hard, you know, what's

8 going to happen down the line when you wish you had one,

9 you know. It's about the future. And I applaud everybody

10 here. I respect everybody's opinion, but look at the big

11 picture. Thank you very much.

12 MR. FRIEDMAN: Thank you for your comment. Next

13 speaker is Stacey McLaughlin.

14 MS. MCLAUGHLIN: Good evening, S-t-a-c-e-y,

15 M-c-l-a-u-g-h-l-i-n. I will be submitting my technical

16 comments to the 5,000 page DEIS that I have read, but

17 tonight I want to speak to you directly, the staff or as you

18 referred to yourself earlier, you're civil servants.

19 I still was a civil servant for over 30 years.

20 I've done my time behind that desk, just like you're doing

21 tonight, the nights before, and the nights after this. And

22 I understand the outside pressures that come at agencies

23 like yours. You are funded by the very industry you're

24 being asked to regulate and to issue permits for. You are,

25 as you noted last night, a line item in the federal budget,

PM5-64

PM5-64

Comment noted.

PM5

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1 so you are also subject to congressional pressures as well.

2 I understand that. I've lived it.

3 There will come a time in your career, if you  
4 have any moral compass at all, when you must stand up for  
5 something, something other than your retirement and your  
6 paycheck. Now, I know this is easier said than done, but  
7 I've done it.

8 Now, you know the law and you know when it is  
9 being compromised, and so did the Rhode Island Bristol  
10 District Attorney Samuel Sutter. He also understood the  
11 threats posed by climate change. So, for days he grappled  
12 with what to do about the two environmental activists facing  
13 criminal charges for blocking a 40,000 ton coal shipment  
14 last year to the Breaking Point power plant in Somerset.

15 Just as the trial was about to begin on Monday,  
16 Sutter decided to drop all the charges. Then in a dramatic  
17 appearance at the Fall River District Court, he said he  
18 empathized with the stance of Ken Ward and Jay O'Hara, one  
19 of them from Oregon, who said they were acting to reduce  
20 harm to this planet when they used the lobster boat, the  
21 Henry David W. to block the shipment to the coal-burning  
22 plant.

23 Because of my sympathy with their position, I was  
24 in a dilemma at Somerset afterward. I have a duty to go  
25 forward to some extent with this case and to follow the

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PM5

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1 applicable case law, but they were looking for a forum to  
2 present this very compelling case about climate change, and  
3 that's what we have had here is a forum for climate change.

4 He added that I do believe they're right and that  
5 we're at a crisis point with climate change. And so I say  
6 to each one of you sitting there in a place of the  
7 Commissioners who have not seen our faces or heard our  
8 distress or seen the beauty of the land and the region and  
9 area that they are being asked to destroy for private profit  
10 for a Canadian corporation.

11 Hear us. See me. And then I want you to  
12 remember these bold words of Pastor Martin Miller. First,  
13 they came for the communists and I did not speak out. Then  
14 they came for the Jews and I did not speak out. And then  
15 there was no one left to speak out for me. So, I ask you to  
16 be the one to speak out for me. But more than me, be the  
17 one, all of you at that desk, to speak out for this planet.  
18 Do no harm.

PM5-65

19 MR. FRIEDMAN: Thank you for your comments. Next  
20 is Anne Chamberlain, the Jeffrey Wooster, and then Bill Gow.

21 MS. CHAMBERLAIN: Okay, hello. The city of New  
22 London, Part 2. I left you with Clarence Thomas last night.  
23 Anthony Scalia, in his dissent to this momentous decision  
24 said "Using eminent domain to condemn private property for  
25 use by another private entity for economic development is

PM5-65

Comment noted.

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1 refer Robin Hood., stealing from the poor to pay the rich."  
2 One day later -- one year later on the  
3 anniversary of this 2005 decision, George W. Bush issued an  
4 executive order instructing the federal government to  
5 restrict the use of eminent domain to public benefit, not  
6 economic interests. Shortly thereafter, 44 states,  
7 including Oregon, passed laws limiting or prohibiting the  
8 use of eminent domain for economic interests. Apparently,  
9 the federal government takes precedent over state law,  
10 despite the executive order.

PM5-66

11 So, now we have to deal with this proposed scar  
12 across our landscape, rough terrain subject to landslides  
13 and earthquakes. Just today, December 10, there was a  
14 flurry of earthquakes from 2.5 to 4.2 magnitude east of  
15 Lakeview, Oregon. I would like to take the FERC committee  
16 on a hike up the mountain pass my house. There's a brand  
17 new slip fault about 3 feet in depth running several hundred  
18 feet down the mountainside. What will a 3-foot slip fault  
19 do to the pipeline?

PM5-67

20 The Port of Coos Bay resembles Port Royal,  
21 Jamaica, including the airport runway. I hope you know what  
22 happened to Port Royal when a quake struck, the entire city,  
23 built on a sand spit on the ocean side of Jamaica Bay sank  
24 40 feet in 30 seconds. Sand is the most unstable of  
25 foundations.

**PM5**

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PM5-66

See the response to IND1-5.

PM5-67

Seismic hazards are discussed in section 4.2.2.

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1 I haven't addressed my concerns about climate  
2 change on salmon because so many people have spoken so  
3 eloquently. Climate change is real. It is here. This  
4 pipeline, link plant and power plant are going to become  
5 major contributors to atmospheric warming, which translates  
6 into ocean warming. Warm water occupies more space than  
7 cold, so it is inevitable that sea levels will rise.  
8 Crossing the headwaters of 380 salmon-bearing  
9 streams cannot be mitigated. Increasingly dangerous storms  
10 are coming off the Pacific into Oregon. They are higher in  
11 wind speed and are larger in scope due to air pollution from  
12 China. Carbon dioxide is warming the ocean and the  
13 particulate matter pollution provides nuclei for storm  
14 generation. Warm water and particulate matter make for a  
15 lot of condensation.  
16 The Pacific Northwest is the largest carbon sink  
17 left in the world. You cannot mitigate a 300-year old  
18 madrone, 250-year old oaks, and you cannot mitigate ancient  
19 Douglas firs. When these trees are gone, they are gone  
20 forever. There will never be trees like this again if this  
21 pipeline right-of-way is approved.  
22 These projects are destroying family's dreams of  
23 leaving their lands to grandchildren to enjoy as we have.  
24 You cannot mitigate the loss of those dreams. As a  
25 scientist and a woman who wants her grandchildren to see

PM5-68

PM5-69

PM5-70

PM5-71

## PM5

## Continued, page 66 of 115

PM5-68 See the response to IND1-1.  
PM5-69 Comment noted.  
PM5-70 Comment noted.  
PM5-71 Comment noted.



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1 some of the beauty and wonder I have seen in my life --  
2 MR. FRIEDMAN: It's time to wrap up.  
3 MS. CHAMBERLAIN: -- a person who wants her  
4 grandchildren to enjoy this place I call home deny this  
5 application. Thank you.  
6 MR. FRIEDMAN: Thank you for your comments.  
7 Jeffrey Wooster.  
8 MR. WOOSTER: Jeffrey Wooster, J-e-f-f-e-r-e-y,  
9 W-o-o-s-t-e-r.  
10 MR. FRIEDMAN: After Jeffrey is Bill Gow, John  
11 Scofield and Richard Jansen.  
12 MR. WOOSTER: I'm up here because I'm a veteran  
13 of the United States military, spent 20 years in, and I  
14 think my oath in enlistment never had an expiration date,  
15 and that was to protect all in this country from all  
16 enemies, foreign and domestic. Why should we build a  
17 pipeline so some foreign company can get rich?  
18 Also, in the environmental impact statement, I  
19 think it needs to be the ships that haul the LNG out of that  
20 and into that port -- or out of that port, they need to  
21 check to make sure -- see what gases that they will produce  
22 from the ships' exhaust from their propulsion plants,  
23 whether it be diesel engine, boilers, or whatever it is.  
24 Even if they're electric, they still run diesel generators  
25 to make the electric to run those ships.

PM5-72

PM5-73

**PM5**

**Continued, page 67 of 115**

PM5-72

Comment noted.

PM5-73

Emissions are discussed in section 4.12. Emissions from all sources, including ships, would be well under federal and state limits.

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1 Also, those LNG tanks that they haul it in are  
2 designed with safety release valves. If something happens  
3 to the ship and it spends too much time at sea, the pressure  
4 in those tanks builds up and those valves open and bleeds  
5 straight methane into our atmosphere and then the wind blows  
6 it right back here, right where it came from, right here  
7 were we don't want this pipeline.

PM5-74

8 And as for all you union workers, you're right,  
9 you guys do great work. I've steamed boilers on ships for  
10 20 years in the Navy. I personally never had any weld break  
11 on a boiler, but I know a lot of them that did. For  
12 example, who wants to go for a ride on the greatest ship,  
13 the Titanic? That was a great engineering feat, wasn't it?  
14 Thank you.

15 MR. FRIEDMAN: Thank you for your comments.

16 MR. GOW: My name is Bill Gow, B-i-l-l, G-o-w.  
17 I'm a highly skilled rancher, very good at what I do, and I  
18 plan to keep my job, and I don't want to lose it according  
19 to this process.

20 The purpose of the Commission is to protect the  
21 public and energy customers. For all you people who haven't  
22 read that, the purpose of the Commission -- the purpose of  
23 the Commission is to protect the public and energy  
24 customers, but eminent domain does not protect the public.  
25 It steals from us.

PM5-75

## PM5

## Continued, page 68 of 115

PM5-74

It is possible for tanks from vessels to be vented at sea; however, quantification of these emissions is speculative and based on engineering judgment they are not believed to be significant relative to the other emissions identified.

PM5-75

Comment noted. Also, see the response to IND1-5.

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1 Energy customers will pay more for their gas.  
2 How can that be a benefit? This project is in complete  
3 conflict of what the Commission's purpose is. Okay. FERC  
4 has five industrial people that sit on that board. They're  
5 members of the industry. I hope you guys start addressing  
6 some of the facts that we have spent so much time doing so  
7 that these people won't get a slanted view of what is really  
8 going on out here because that's what it's been so far.

PM5-76

9 None of our scoping -- and I'll tell you none of  
10 our scoping questions, nothing has hardly ever been put in  
11 this EIS. I'll tell you how bad this EIS is. I have a  
12 ranch and the back of my ranch is sealed off. When they  
13 opened up this big corridor right up the back of me, I'm  
14 going to have a big swath coming up through there. I have  
15 off road vehicles, trespassers, they come in, they cut your  
16 fences, they tear everything up. The animals go through  
17 there. It's on and on and on.

PM5-77

18 Let me show you how they address this in here.  
19 "Pacific Connector would be responsible for monitoring and  
20 managing unauthorized OHV, off highway vehicles, used during  
21 the full life of the pipeline project and would implement  
22 additional measures as necessary." Well, that makes me feel  
23 warm and fuzzy. That's really covering it, you know.

PM5-78

24 And anyway, you know, all you guys have talked  
25 about how fair they're going to be about eminent domain.

**PM5**

**Continued, page 69 of 115**

PM5-76

A 2012 study by the Energy Information Administration (EIA) of the U.S. Department of Energy (DOE) stated: "...U.S. natural gas prices are projected to rise over the long run, even before considering the possibility of additional exports." Another 2012 study by NERA Economic Consultants for DOE found that the nation is "...projected to gain net economic benefits from allowing LNG exports."

PM5-77

Individual questions and comments, with some exceptions, are not directly addressed in the DEIS. Scoping comments/questions are used to identify issues; these issues are addressed in the EIS.

PM5-78

Comment noted.

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1 Let me give you one good example that will kill all your  
2 ideas of all you people. I live right next door to the  
3 Tribe who owns this place. Okay, they were going to go  
4 through the Tribe. The original plan was to go through the  
5 Tribe.

6 I don't know if all you know, it's a sovereign  
7 nation and they cannot use eminent domain to go through the  
8 Tribe. So, instead of negotiating like all you people think  
9 they're going to negotiate; they went around it and went  
10 from my main ranch and through another one of my ranches and  
11 now through another one of my ranches. Okay, so they didn't  
12 try to negotiate, so they took more of my property. Why did  
13 they take my property, because they could use eminent domain  
14 against me? Okay, there's no other reason. They didn't do  
15 it because it was easier. They actually have to go out of  
16 their way. They're not going to negotiate with those  
17 people.

18 You know, none of these right-of-ways  
19 alternatives that we have gave you have been even looked at.  
20 I've addressed several of them. You can go back and look in  
21 the comment period, not one of them is addressed in here.  
22 These are the kinds of things that this EIS is about. It's  
23 not about how skilled a worker we are. It's not how many  
24 jobs. It's about protecting the environment, and that's  
25 what we need to address in this thing.

PM5-79

**PM5**

**Continued, page 70 of 115**

**PM5-79**

The DEIS does not consider the precise alternative suggested on the maps that accompany your scoping letter dated October 26, 2012, which appears to be a straight line from about MP 70.5 to MP 79. At the Klamath Falls, Medford, and Canyonville scoping meetings you suggested FERC consider an alternative that has the pipeline route follow public highways (“put it under the highways”). The DEIS considers an all-highway alternative route in section 3.4.1.2 and found that an all-highway route would not offer significant environmental advantages over the proposed route and in many places would not be permitted under federal or state regulations. We reviewed the scoping letters and it does not appear that you submitted a map that shows exactly where you recommend placing the line. Alternatives considered in your general area are in DEIS section 3.4.2.5 and include the Interstate 5 and South Umpqua River Crossing Alternative Routes.

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1 And if everyone thinks it such a great idea, put  
2 it on your land. You can have my section, just take it. I  
3 don't want a dime from these people. Thank you.

4 MR. FRIEDMAN: Thank you for your comment. Next  
5 is John Scofield.

6 MR. SCOFIELD: Yeah. My name is John Scofield.  
7 And my wife and are affected landowners at 1868 Hoover Hill  
8 Road, Winston.

9 The primary purpose of FERC is to review and  
10 establish any project has to be in the public interest.

11 MR. FRIEDMAN: Hold the mike a little closer to  
12 you.

13 MR. SCOFIELD: A primary concern of FERC during  
14 the review process should be safety. The safety of the  
15 public should be in line with the goal of the project. In  
16 that light, I want to review and submit to you a glimpse of  
17 Williams Company safety history. At the end of my three  
18 minutes, check yourself and see if you truly believe you're  
19 considering entrusting the right company with the public  
20 safety.

21 This is a story of a population of city of -- a  
22 little city of a population of about a thousand called  
23 Parachute, Colorado. Some of you might've read about it.  
24 December 20, 2012, the beginning of a natural or a liquid  
25 natural gas pipeline leak occurred. Parachute Creek runs

PM5-80

## PM5

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PM5-80

Safety and risks associated with the Project are discussed in section 4.13.

PM5

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1 through the small town which is nestled next to the Colorado  
2 River.

3 January 2013, Williams discovers a leak of liquid  
4 natural gas in the Parachute plant while working on  
5 construction to expand the plant. Reports say the leak was  
6 found by accident. The leak was stopped, but benzene, a  
7 cancer-causing agent, has contaminated the soil. Williams  
8 said the leak did not affect the creek.

9 March 8, same year, Williams begins a cleanup two  
10 months later of benzene leak. Authorities and landowners  
11 notified were notified that the soil has been contaminated,  
12 no mention that the groundwater is poisoned. Reports said  
13 Williams didn't report the spill or leak earlier because  
14 they thought it was less than 25 gallons had leaked.  
15 Remember that number, only 25 gallons had leaked.

16 March 15 of 2013, the groundwater in Parachute is  
17 contaminated with benzene from the liquid natural gas leak.  
18 Final spill -- the spill was finally announced to the  
19 public. Benzene is a cancer-causing agent that breaks down  
20 bone marrow. March, later that month of 2013, Williams  
21 natural gas pipeline in West Virginia ruptures.

22 April, going back to Parachute, Colorado,  
23 residents are questioned and the credibility of Williams,  
24 who was in charge of testing their water and want the  
25 government to take over. The contamination did continue to

PM5

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1 spread into the creek.

2 April of 2013, Williams says the faulty pressure  
3 gauge caused -- was the cause of the leak. Benzene was now  
4 detected in the creek. The state health department takes  
5 over the oversight of the leak.

6 May of 2013, benzene levels rise in Parachute  
7 Creek. State agency tells Williams it violated the law.

8 June 2013, Williams natural gas liquid plant that  
9 processes in Louisiana explodes and burns. 2013, June 14,  
10 investigators into the Williams Louisiana explosion reveals  
11 three years of noncompliance with the federal Clean Air Act.  
12 Williams had not conducted an OSHA inspection in 10 years.

13 Finishing this story up about Parachute here real  
14 quick, benzene levels increase at a point in the Parachute,  
15 Colorado leak 130 tons per day of contaminated soil has been  
16 stockpiled. From 25 gallons? Reports shows that Williams  
17 expects to remove and treat as many 26 million gallons of  
18 groundwater, over half a year to a year at the site of its  
19 natural gas liquid leak along side Parachute Creek.

20 This is July 20, last year, about 135,000 pounds

21 --

22 MR. FRIEDMAN: John, can you wrap up, please?

23 MR. SCOFIELD: -- of tainted groundwater was  
24 removed in March and has been disposed of in an injection  
25 well in Grand City, Utah.

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PM5

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1 MR. FRIEDMAN: Thank you for your comments.  
2 UNIDENTIFIED MALE SPEAKER: Can he have my time?  
3 He has more to say, and I'm willing to give up my time.  
4 MR. FRIEDMAN: When it's your turn, he can come  
5 back up and finish. Mr. Chasm. After Mr. Chasm, we have  
6 Ben Erackson, Eugene Scott, Jud Daffern, and Sharon Gow.  
7 I'm sorry for mispronouncing your name.  
8 MR. CHASM: Thank you very much, Mr. Friedman.  
9 I'd like to first of all thank the panel. This is my third  
10 testimony, and you all have been sitting through all of it  
11 and I really appreciate it, including the court reporter.  
12 I'd also like to acknowledge the changes that our  
13 union brothers have made towards this, and no one has ever  
14 suggested that these aren't some of the most highly skilled  
15 welders and workers in the world and that they will do their  
16 best, but I had a friend, good friend in my cabin today and  
17 I was telling him about the rain and maybe some time taking  
18 a ride over through Sicom and Coos Bay Wagon Road and  
19 watching the waterfalls. Some of those waterfalls are a  
20 thousand feet. It's not sheer, long cliffs, long  
21 waterfalls. And this pipeline proposes to go over Weaver  
22 Ridge and then back over into Sicom off of those cliffs.  
23 The older I get the more I realize I don't know  
24 about an ever-expanding universe of things to know, but I do  
25 know Weaver Ridge and I do know the country over through

PM5-81

PM5-81

Comment noted.



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1 Sicom, and that's a roughest son of a gun. And when it's  
2 raining down here, it's snowing up there. It can drop three  
3 feet of the coldest, wettest snow overnight and people die  
4 up there in the snow, and it can slide and it can slip.  
5 And in the summertime, you cough wrong and you  
6 can start a forest fire. I've done it. And the window of  
7 opportunity for this construction to actually occur in some  
8 of the roughest country -- this is not Gresham. This is not  
9 Kansas. This is not flat. It's like this (indicating) and  
10 it'll move on you and it'll burn. And that country is being  
11 logged off and there's thousands of acres of reprog timber  
12 about belly high.  
13 We saw what happened down here with the Douglas  
14 Complex fire, and the representatives of the BLM and Forest  
15 Service know it, that a lot can happen when these fires goes  
16 off. And this EIS is grossly inadequate. And with all due  
17 respect to the professionalism that you folks have brought  
18 us out here, this 5,000 pages it took several years to  
19 create three days after the election when we could hold our  
20 elected officials to account, boom, it's up and then it  
21 expires the day before Valentine's Day, just as the  
22 legislature is just starting to get engaged.  
23 The timing of this is absolute disgrace to the  
24 concept of government of the people, by the people, and for  
25 the people. This has become government of the corporation,

PM5-81  
Cont.

PM5-82

PM5-83

**PM5**

**Continued, page 75 of 115**

PM5-82

Comment noted.

PM5-83

Your comments on government are noted. In response to the comment period: it is typical practice at the FERC to allow 45 days for comments on a DEIS. Given the scope and complexity of the Project, FERC doubled that period, providing 90 days for comments. In addition, staff held six meetings in southern Oregon (in Coos Bay, Roseburg, Canyonville, Medford, Klamath Falls, and Malin) during the week of December 8-13, 2014, to take oral comments from the public. FERC does not believe it was necessary to extend the comment period further. We believe 90 days is an adequate time for concerned Oregonians to provide their comments to the FERC without unduly delaying completion of the environmental review.

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1 by their captured agencies, and for the corporations to  
2 plunder the planet. This is a bad idea. It's never going  
3 to happen, and we need to extend the period of time for  
4 legitimate comments. Thank you.

5 MR. FRIEDMAN: Thank you for your comments. Next  
6 is Ben Erackson.

7 MR. ERACKSON: Ben Erackson, E-r-a-c-k-s-o-n.  
8 It's not really a lot I can say that a lot of people haven't  
9 already said, but I'd like to reiterate the point that no  
10 one has tried to say that the union guys aren't going to do  
11 a good job, but it's hard for a weld, no matter how good it  
12 is, to go up against a 9 point plus earthquake with the  
13 cascadia subduction zone and that's going to happen. Sooner  
14 or later it's going to happen, so what happens when that  
15 does happen? Do we just have a massive forest fire? I mean  
16 I don't think any of that was really addressed in the EIS.  
17 And I guess that's about all I have to add.

18 MR. FRIEDMAN: Thank you for your comment. Next  
19 is Eugene Scott.

20 MR. SCOTT: E-u-g-e-n-e, S-c-o-t-t. There's  
21 really a lot to digest here. I really empathize with  
22 everybody who needs work and wants to get a job through all  
23 of this. I think there's a higher way to have jobs that are  
24 actually sustainable because natural gas throughout its  
25 entire processing of getting it out of the ground,

PM5-83  
Cont.

PM5-84

## PM5

## Continued, page 76 of 115

### PM5-84

Seismic effects are discussed in section 4.2.2.2 of the EIS. As stated in that section welded steel pipes have fared well in earthquakes in California. The subsidence is not predicted to be an abrupt change and it is anticipated that the pipeline can span that movement over distance. Also, as stated in the FEIS, additional geotechnical studies would be undertaken prior to construction. Also see response to comments IND1-4 and PM3-46.

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PM5

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PM5-85

See the response to IND1-1.

1 transporting it, then especially exporting it is simply not  
2 sustainable. There's a huge, as was stated, 420 megawatt  
3 power plant involved at the export at Coos Bay. That's a  
4 huge amount of gas just being burned just to compress this  
5 stuff into a dangerous liquefied form to export it.

6 What I would propose is that FERC take a much  
7 longer view on this whole thing and come up with ways that  
8 this country can actually conserve on the energies it has,  
9 which I would estimate from my years of study of this, 50  
10 percent of the electricity and natural gas in this country  
11 is actually wasted in terms of loss through poorly insulated  
12 buildings. And I would like to propose that this county,  
13 this area, and including all the welders and people with  
14 skilled trades get involved in the manufacture of solar hot  
15 water heating systems. Why don't we have those on every  
16 single structure in this entire country?

17 I've built quite a number of them. Some of them  
18 just literally in a backyard with salvaged materials, and  
19 they really work. And I would like to see FERC take a  
20 longer range view than what I'm hearing so far and look for  
21 alternatives to climate-changing, air polluting energy  
22 systems such as Jordan Cove/Pacific Connector Pipeline.  
23 Thank you.

24 MR. FRIEDMAN: Thank you for your comment. Next  
25 is Jud Daffern and then Sharon Gow and then Francis

PM5-85

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PM5

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1 Etherington.

2 MR. DAFFERN: That's Jud, J-u-d, D-a-f-f-e-r-n.

3 I live near Myrtle Creek near Clark Branch Road.

4 When I look around in Douglas County, I see that

5 it's been pretty worked over. It's kind of what it looks

6 like, a couple generations of logging, rearing cattle, that

7 kind of stuff. Douglas County doesn't need more bulldozers,

8 more working over, more clear-cutting. So, when I read

9 about mitigation, environmental impact statements, I'm

10 wondering where is the environmental improvement statement.

11 We don't need more mitigation of clear-cuts, bulldozers

12 across the Umpqua River. We need environmental improvement.

13 We need restoration. We need a resilient environment, not a

14 brittle, crackly one like the one we have right now. Thank

15 you.

16 MR. FRIEDMAN: Thank you for your comments.

17 MS. GOW: Hi. My name is Sharon Gow, and that's

18 G-o-w; not gaw, but GOW.

19 We own a ranch on Clark Branch Road, and they

20 propose to come through about almost two miles of it, so I

21 do have a dog in the fight, and we already have the Grounds

22 Pass lateral that goes through another part of our land.

23 And we've owned it for several years and never has it been

24 maintained. They never come back and check it. They don't

25 even really care about it, other than there's gas goes

PM5-86

PM5-86

Comment noted.

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1 through it. Who knows if it leaks because we -- obviously,  
2 they don't know.

3 This nice pipefitter guy here he said they're  
4 going to have two years of people coming in. We'll be  
5 making money for two years. What's two years? We have 20,  
6 30, 50 years. My family lives on this ranch. They'll be  
7 there for the next 150 years, and two years is not really  
8 going to make a difference in that, let me tell you. And he  
9 said this -- and I really do think you're going to be safe.  
10 My husband was an ironworker for years. I think it's going  
11 to be a safe job.

12 Anyway, I'm sure they're going to test it when it  
13 comes out. I really do. But I've never -- have you ever  
14 had a pipe in your house that's not broke, and they always  
15 break. They do, or they leak. And this is going to happen.  
16 It is. It's the way life goes.

PM5-87

17 And I work at a government agency, and we have  
18 metal pipes and I'm sure they were put in by pipefitters  
19 because it's a metal building, a building that was, you  
20 know, government owned and it leaks all the time. Plus, we  
21 don't even drink the water because we get water from, you  
22 know, the guy who brings it in 'cause -- but the public gets  
23 to drink it. So, I'm kind of worried about the government  
24 for that a little bit.

25 And you know, I'm kind of worried about fracking

PM5-88

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**PM5**

**Continued, page 79 of 115**

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PM5-87

Comment noted. See the response to IND1-2.

PM5-88

See the response to IND1-3.

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1 coming through it because we have all these carcinogens  
2 coming through that pipe, and this is my land. This is land  
3 that I have worked my tush off for. I mean I'm still  
4 working, and I would just hate to see it ruin the  
5 groundwater because, you know -- anyway, we're shipping gas  
6 overseas. Okay. Great. Because we shipped our timber  
7 overseas, see how great that did for us. I mean we don't  
8 have any timber workers any more because of it.

PM5-88  
Cont.

9 And the nice fellow that said that he was working  
10 on the pipeline that went through McMinnville and it was  
11 just like a park after it was done did not talk to the two  
12 farmers I talked to that said that there was rocks on top of  
13 their land and they couldn't farm it any more after they  
14 were done.

15 So, I just really want to say that it's really  
16 hard to fight big money, and even after they get it put in,  
17 which, you know, I'm sure these nice men will put it in  
18 nicely, they're not going to maintain it and then we're  
19 going to have to live with it forever.

PM5-89

20 Anyway, okay. Thank you.

21 MR. FRIEDMAN: Thank you for your comments. The  
22 next speaker is Frances Etherington, and after Frances is  
23 Bob Barker and Jenny Council.

24 MS. ETHERINGTON: Good evening. Frances  
25 Etherington, milepost 86.

**PM5**

**Continued, page 80 of 115**

PM5-89

Comment noted. Maintenance requirements are discussed in section 4.13.

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1 On the Pacific Connector Pipeline, you know,  
2 Pacific Connector wants to use 7.8 acres of our property,  
3 and they've made an offer of \$2,292 for those 8 acres, and  
4 it is a bit shocking, but you know that they're going to get  
5 the right of eminent domain. They don't really have to  
6 negotiate when they get that right. That orange banner that  
7 you saw earlier that's the width of the clear-cut that comes  
8 through our property.

PM5-90

9 Now, you know, 300 other landowners, 90 percent  
10 of those are probably going to be subject to eminent domain.  
11 They're not going to agree to this happening on their  
12 property, and it's for jobs. We've heard a lot about jobs  
13 today, and I just want to point out that the total number of  
14 permanent jobs is 135 -- permanent jobs this project will  
15 create, and a third of those are going to be out-of-state  
16 hires. So, it's only 101 jobs local hire. For this, 300  
17 landowners have to endure this eminent domain for the  
18 benefit of a foreign country.

PM5-91

19 Now, I also want to take a little bit of my time  
20 today to talk about the mitigations, and this is for the BLM  
21 and the Forest Service. Paul you've said that this project  
22 is -- the environmental impacts would be reduced if properly  
23 mitigated. Unfortunately, the mitigations are problematic.  
24 This project would impact 32 species protected under the  
25 Endangered Species Act. And for the BLM and Forest Service

PM5-92

**PM5**

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PM5-90

Comment noted. As discussed in section 4.9.2.3 of the DEIS, if the landowner and the pipeline company cannot agree on the terms of the easement, the matter would be decided by the court.

PM5-91

Section 4.9 includes estimates of employment and taxes that would result from the project. Most jobs would be associated with construction. Table 4.9.1.4-2 estimates 145 direct jobs and 445 indirect jobs associated with operation of the terminal in Coos County. The pipeline is estimated to create about 9 permanent jobs (page 4-816). Tables in section 4.9 also disclose the number on construction jobs, which are considerably higher. As for the comparison with Malin, we are not aware of an LNG terminal having been built in Malin.

PM5-92

The 15 yr. monitoring report for the NWFP identified stand replacement fire as the single greatest factor for the loss of LSOG habitat on Federal land. The LSRAs for LSR 261 and 223 also recommended fuel reduction activities to reduce the risk of loss of LSOG habitat to stand replacement fire (see section 2.1.4, 4.1.3.6 and appendices F and H of the DEIS). The BLM and Forest Service have not proposed logging of old-growth forests as mitigation for the PCGP project.

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1 lands, the mitigation its commercial logging, even logging  
2 in old growth forest under the pretense that logging in old  
3 growth forest will help stop the spread of wildfire and save  
4 spotted owls. I have to say that logging old growth forest  
5 have never stopped a fire and has no place in a mitigation  
6 plan.

PM5-92  
Cont.

7 Now, another mitigation to save owls is using  
8 helapons to put out forest fires. The waters -- the water  
9 used to hydro-test the pipeline will be used to create  
10 several helapons in the coast range. 62,000 million gallons  
11 of clean water will need to be used to test the pipeline for  
12 leaks. When this water is released it is no longer clean.  
13 It is full of toxic materials, including chlorine. It is a  
14 problem trying to determine where to release millions of  
15 gallons of toxic water.

PM5-93

16 Now we read in the DEIS that Pacific Connector  
17 will create helapons with it. So, instead of a toxic  
18 liability, we now have a mitigation to save wildlife and  
19 justify the environmental damage. Now, you folks here from  
20 BLM you shouldn't let them do this and you should really  
21 stand up to this type of mitigation.

22 You know, I want to say a word about the shell  
23 game that is being used for the proposed benefits for Oregon  
24 because we are going to get gas from the Northwest Lateral.  
25 Well, John Clarke here pointed out that they're going to

## PM5

## Continued, page 82 of 115

PM5-93

There is no proposal to fill heli-ponds with discharge water from hydrostatic testing.



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1 take gas from the 12-inch pipeline, put gas in at the  
2 Northwest Lateral. The FEIS has to make this shell game  
3 clear. This is as clear as mud, and you really need to  
4 straighten that out.

5 I also want to say that, Paul, you said that this  
6 DEIS is like three EISs. It's so big and thick. That just  
7 means we need more than 90 days to comment on this, so  
8 please extend the comment period.

PM5-94

9 MR. FRIEDMAN: Thank you for your comments. Next  
10 we have Bob Barker, then Jenny Council, and then somebody  
11 Rafferty.

12 MR. BARKER: Okay, it's Bob Barker. Last name is  
13 B-a-r-k-e-r, milepost 122.6.

14 By my count, there're about 221 pages of the EIS  
15 that are devoted to the BLM and Forest Service planned  
16 amendments. A question for you, Paul, first of all, all  
17 comments with regard to those go to you.

PM5-95

18 MR. FRIEDMAN: They go to the FERC. They go to  
19 the Federal Energy Regulatory Commission.

20 MR. BARKER: What I mean is go to FERC, not your  
21 website, and then you relay those back to the appropriate  
22 agency.

23 MR. FRIEDMAN: Yes, we work as a team.

24 MR. BARKER: Okay, got that. You know I would  
25 certainly maintain you're a cooperating -- the two of you

PM5-96

## PM5

## Continued, page 83 of 115

PM5-94 The FERC decided not to extend the 90-day period for comments on the DEIS past February 13, 2015.

PM5-95 As discussed during the public meetings and in the letter "To the Party Addressed" in the DEIS, all comments on the DEIS are to be addressed to the FERC.

PM5-96 The decision on whether or not to grant a right of way through Federal lands would be made by the BLM with concurrence from the Forest Service and Reclamation.

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PM5

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1 represent cooperating agency. Does that, by definition,  
2 require that you, in effect, only deal with the mitigation  
3 of the project impacts and cannot make any recommendation  
4 with regard to not passing that project through Forest  
5 Service or BLM lands? That's a question to either or both  
6 of you.

PM5-96  
Cont.

7 MR. FRIEDMAN: Yes, I think they're going to  
8 respond to that in the FEIS.

9 MR. BARKER: Okay, you will not respond today  
10 then, right?

11 MR. FRIEDMAN: They're going to do some research.

12 MR. BARKER: I'll be glad to know that. You  
13 know, my position is that you really cannot properly  
14 mitigate 70 miles of swath clear-cut 100-foot wide. Thank  
15 you.

PM5-97

16 MR. FRIEDMAN: Thank you for your comments.

17 MS. COUNCIL: Jenny Council, J-e-n-n-y,  
18 C-o-u-n-c-i-l. I'm here in my capacity as Director of  
19 Oregon Women's Land Trust, who tend to our farm on milepost  
20 86 of the pipeline. We are a nonprofit, 501(c)(3)  
21 organization, and a key part of our mission is to protect  
22 the wildlife ecosystems on the land in our care.

23 Our land is immature forests because according to  
24 our articles and mission we cannot log, but Pacific  
25 Connector wants to log a 100-foot wide clear-cut through our

PM5-98

PM5-97

Comment noted.

PM5-98

Comment noted.

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1 best and oldest forests. They want to use 7.8 acres of our  
2 land, nearly 8 acres, and they've offered us a one-time  
3 payment of 2,292 pounds -- dollars -- wrong country --  
4 \$2,292 is our offer for that 8 acres of land. I'm sure that  
5 everybody here who has a 40-hour a week job earns more than  
6 that in one month.

PM5-98  
Cont.

7 Adjacent to our land the pipeline will plow  
8 through the known spotted owl habitat site on BLM land  
9 because it goes right through the nest area. Mitigation is  
10 being offered to the BLM. We've talked to Pacific Connector  
11 -- we've told Pacific Connector that our forest contributes  
12 to that habitat used by that owl, but they have refused to  
13 offer us any mitigation. Instead, they've told us that if  
14 we want more money -- for example, if we wanted to have  
15 royalties or ongoing payments for the destruction to our  
16 land, we can just invest our \$2,000 and collect the interest  
17 that it will gain.

PM5-99

18 Pacific Connector has made it clear that if we  
19 don't accept their offer they will simply get a certificate  
20 from you, giving them the right to condemn land. They've  
21 made that very clear that they consider that a done deal in  
22 the presentations that they have given us with no additional  
23 compensation required for losing all of our best wildlife  
24 habitat or mitigating the values that we lose.

PM5-100

25 The process of giving corporations permission to

## PM5

## Continued, page 85 of 115

PM5-99

Comment noted.

PM5-100

Comment noted. As discussed in section 4.9.2.3 of the DEIS, if the landowner and the pipeline company cannot agree on the terms of the easement, the matter would be decided by the court.

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PM5-101

Comment noted.

1 condemn our land is unfair, especially when they simply  
2 offer us 50 percent of only the assessed value and not only  
3 of the land that they permanently maintain the clear-cut on.  
4 They will destroy a lot more. And that value does not  
5 include any of our own values or the loss of resources or  
6 any of the losses to us as an organization or for losing the  
7 reason for which we held this land.

8 By destroying our forests, it would destroy our  
9 use of the land. Landowners should be able to look to our  
10 government to help us, but it has appeared to us that you  
11 are in the business of approving projects like this. It is  
12 my understanding that you have never said no to an LNG  
13 terminal. Perhaps this time you could objectively and  
14 honestly analyze whether destroying our private property can  
15 possibly be justified when the beneficiaries will be the  
16 profiteers of a foreign Canadian corporation and the  
17 short-term workers at some of the camps that they will live  
18 in while they're here and the mere 145 long-term jobs.

PM5-101

19 I counted when I came in the room, if we looked  
20 at three-quarters of the seating in this room, that's 145.  
21 That's the scale of the jobs gained. This casino itself  
22 hires 900 people on an ongoing, every year basis just to  
23 give you --

24 MR. FRIEDMAN: Jenny, I know you want to wrap up  
25 now.

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1 MS. COUNCIL: Thank you.

2 MR. FRIEDMAN: Thank you for your comments. I'm  
3 unable to read this person's first -- oh, it's probably  
4 Carl, Carl Rafferty, is that right?

5 MR. RAFFERTY: Yes.

6 MR. FRIEDMAN: Okay, got it. And after Mr.  
7 Rafferty is Boyd Peters, Bruce Gordon, and Jennifer Dalton,  
8 maybe.

9 MR. RAFFERTY: My name is Carl Rafferty,  
10 R-a-f-f-e-r-t-y. I'm an Oregonian, a third generation.

11 I've had the opportunity to work for Pacific Gas  
12 and Transmission, who has two gas lines that come out of  
13 Canada right now all the way to California, a 36-inch and a  
14 42-inch. Most of you should know that both these pipelines  
15 have been in existence in the State of Oregon for 30 plus  
16 years, and the 42-inch line was put in at around 1995.

17 I'm not speaking on behalf of Pacific Gas and  
18 Transmission. I no longer work for them, but I did work for  
19 them for a period of time. And I can just say that history  
20 of that line and how it was installed should show all of us  
21 what can be done when the Department of Transportation is  
22 working properly.

23 As humans, we all know, and we're fully aware  
24 that we are all capable of making mistakes. With that said,  
25 this meeting today with FERC and the government agencies who

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1 are empowered at our government, and I appreciate being an  
2 American that we can actually have a meeting like this and  
3 not have somebody just come up to us and say you don't get a  
4 voice. You don't get to say anything.

5 So, I do appreciate the landowners and those of  
6 you that live in this county. I don't live in this county.  
7 I have vacation home up in Oregon, Portland, Oregon, but I  
8 just want to say that I want you guys to take a look at the  
9 laws. May sure that all of the laws for all of the  
10 Americans and all the laws that are necessary for this  
11 pipeline, if it proceeds, that they are followed to the best  
12 of our ability. But I guarantee you that humans are  
13 involved. Mistakes will always happen. We will always have  
14 earthquakes. We will always have fires. We will always  
15 have dangerous perils and things that will happen to each  
16 one of us, some of us twice.

PM5-102

17 All I can say is we cannot stop living because  
18 we're afraid. But we have laws and we need to utilize those  
19 laws that are written by men with good intentions to try to  
20 move our environment and our stewardship and also jobs and  
21 prosperity. This project, obviously, is going to help the  
22 State of Oregon.

23 And yes, there may be some foreign people who are  
24 going to benefit from this. There are foreign people  
25 benefitting from us right now in this casino. It's a

PM5-102

Comment noted.

PM5

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1 sovereign nation. They are foreign, technically. All I'm  
2 trying to say is --

3 MR. FRIEDMAN: Wait. Wait. Wait. Can we be  
4 quiet? Seriously.

5 MR. RAFFERTY: I don't want to be disrespectful  
6 to anybody, but I'm just trying to make my point that there  
7 are lots of different issues that around this. And I guess  
8 I just want to make sure that, you know, everybody has the  
9 right intentions on the board and also those who are  
10 involved in the process to make sure that all the laws are  
11 followed, and that we do the best of our ability to fulfill  
12 our obligations, both as public servants or elected  
13 officials. Thank you for your time.

14 MR. FRIEDMAN: Thank you for your comments. And  
15 I know -- wait, okay. We talked about showing respect for  
16 everyone regardless of whether you agree with them or not.  
17 Yesterday we had somebody talk about Nazi concentration  
18 camps, and I didn't hear any booing out there, all right.  
19 Sometimes people misspeak, all right. They have the right  
20 to speak. You all have the right to speak. Let's show a  
21 little respect. No booing. Thank you.

22 Next speaker is Boyd Peters.

23 MR. PETERS: Boyd Peters, B-o-y-d, P-e-t-e-r-s.  
24 I appreciate all the comments this evening. Thank you for  
25 coming out. I don't want to pop, be able to hear, be able

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1 to be heard. And thank you to FERC for the opportunity to  
2 testify. I do value that opportunity.

3 Apparently, FERC is likely to bless the Jordan  
4 Cove Project. And sadly, several Oregon public agencies are  
5 tilted in the same direction. I would employ Governor  
6 Kitzhaber to ask the tough questions to these agencies. Can  
7 Oregonians allow a foreign corporation to violate private  
8 landowners with eminent domain powers and for an unneeded  
9 pipeline? I guess so.

10 The "public benefit" is a tortured rational  
11 supplied by a Canadian corporation who will be the true  
12 beneficiary. First, they wanted to import fuel, then they  
13 decided to export instead. In any event, the public benefit  
14 to this state is small compared to the costs of plowing  
15 through a wild landscape, private and public. PM5-103

16 Governor, you like to fish, as many of you do as  
17 well, I'm sure. Hundreds of fish-bearing stream crossings  
18 are proposed, either boring under waterways or plowing  
19 through them. Again, private corporate profits with  
20 relatively small private -- public benefit. The Jordan Cove  
21 terminal sitting on a sand spit opposite a nearby airport's  
22 runway is a problem waiting to occur, whether by a Tsunami,  
23 earthquake, or human error. PM5-104

24 Will there be a credible emergency preparedness  
25 plan in place for the Port of Coos Bay that the U.S. Coast PM5-105

PM5-106

**PM5 Continued, page 90 of 115**

PM5-103 Comment noted.

PM5-104 Comment noted.

PM5-105 Our analysis of potential Project-related impacts on the Southwest Oregon Regional Airport in North Bend can be found in section 4.10.1.4 of the DEIS. In their December 17, 2009 Order Granting Authorizations Under Section 3 of the Natural Gas Act and Issuing Certificates for the original Jordan Cove LNG import proposal in Docket No. CP07-444-000, the other four sitting Commissioners disagreed with and overruled Mr. Wellinghoff's dissent. In a letter to the Commission dated December 22, 2014, commenting on our November 2014 DEIS for this Project, the Southwest Oregon Regional Airport and Coos County Airport District stated that it "strongly concurs with (the) recommendation (in the DEIS for Jordan Cove to document consultations with the Federal Aviation Administration [FAA] and submit the results of studies before Project construction) and believes that the FAA process will assure that the Airport continues to operate safely and efficiently." See the response to IND1-4 concerning geological risks.

PM5-106 See the discussion in section 4.13.6.1.



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1 Guard will be ready to implement? Will the public cost be  
2 worth the foreign corporate profits and the limited local  
3 benefits? Will the cleanup bond actually cover potential  
4 accidents? And will closure costs be adequate when the  
5 project ends? EIS needs to answer these questions. Thank  
6 you.

PM5-106  
Cont.

7 MR. FRIEDMAN: Thank you for your comments.  
8 Jennifer and then after Jennifer is Ted Gleichman, Beth  
9 Gwynn and Lance Schroeder.

10 (Off mike conversation.)

11 MR. FRIEDMAN: That wasn't Bruce Gordon?

12 UNIDENTIFIED FEMALE SPEAKER: No.

13 MR. FRIEDMAN: All right, Bruce Gordon it's your  
14 turn first.

15 MR. GORDON: I asked you earlier, Paul, if I  
16 could --

17 MR. FRIEDMAN: And you could now.

18 MR. GORDON: -- I'll relinquish my time. If you  
19 would want to finish your story. We want to hear all about  
20 Williams' record.

21 MR. SCOFIELD: All right, again, John Scofield.  
22 Continuing on the story of Williams --

23 AUDIENCE: Louder.

24 MR. SCOFIELD: John Scofield. Continuing on the  
25 story of Williams' pipeline safety record here.

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1           2002, Williams was reported to be in financial  
2 stress and on the verge of bankruptcy. 2002, Williams has  
3 class action lawsuit filed against it alleging it has failed  
4 to disclose financial -- failing financial conditions.  
5 2003, Williams pays \$20 million to settle claims of  
6 reporting false data to manipulate the U.S. natural gas  
7 market.  
8           2004, fined 30,000 for a fire well in Parachute,  
9 Colorado. 2007, Williams agrees to pay \$290 million to  
10 settle class action lawsuit in 2002; 2009, natural gas  
11 explosion in Virginia. The blast ripped a 82-foot section  
12 of pipe from the ground and caused 1,100-foot burn zone.  
13 Property damage reported to exceed \$3 million.  
14           2009, fined \$52,000 for failure to monitor  
15 corrosion adequately with the Virginia pipeline explosion in  
16 2008. In 2010, Transco Pipeline leak in Texas, leak was not  
17 reported for four days. The one-quarter-inch diameter leak  
18 caused a reported \$257,000 in property damage. Their  
19 inspection didn't find it. An operator who saw the bubbles  
20 did.  
21           2011, fined 23,000 by PHMSA for failure to  
22 conduct annual inspections of natural gas compressor  
23 stations in Texas and Louisiana. In 2011, natural gas  
24 pipeline rupture and explosion in Alabama, eight acres  
25 burned, coating failure blamed as cause, report states that

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1 the corrosion was not recognized by Williams even though  
2 they claimed to have systems in place.  
3 2012, gas leak caused explosion at natural gas  
4 compressor station in Pennsylvania. Williams restarts the  
5 stations within 24 hours and started pumping fracked gas  
6 despite requests from Pennsylvania Department of  
7 Environmental Protection not to do so.  
8 2012, Transco Williams fined 50,000 by PHMSA for  
9 failure to follow own internal policies with controlling  
10 corrosion in natural gas pipeline in New York; 2012, natural  
11 gas leak in New Jersey.

12 They have a long history of not inspecting these  
13 pipelines once they're installed. And that's the part that  
14 scares us the most here, that if you guys do say go, and  
15 this is the company that's going to be installing this  
16 pipeline, who's going to keep them up to the speed of  
17 getting these pipes inspected so these blowouts don't  
18 happen, these explosions don't? Take a look at that. Make  
19 a decision for the public safety. Thank you.

20 MR. FRIEDMAN: Thank you for your comments. So,  
21 now we have Jennifer and Ted Gleichman, then Beth Gwynn and  
22 then Lance Schroeder.

23 MS. VAN DATTA: My name is Jennifer,  
24 J-e-n-n-i-f-e-r, and the last name is Van Datta,  
25 V-a-n-D-a-t-t-a. I'm service representative for the

PM5-107

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PM5-107

Pipeline operations, including monitoring, are the responsibility of the DOT.

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1 Carpenters Union, and so a lot of what I do is mediate. So,  
2 I don't have the luxury of just listening to one side. And  
3 I've been doing this for about 12 years now, and it's been  
4 an education and it is every time when there's an issue that  
5 I am in the middle of.

6 So, I'm listening to both sides tonight, and I  
7 realize that people have come in here with their minds  
8 already made up. And when we already have our mind made up,  
9 then we're only looking for reasons to validate what we  
10 already believe in, and so we're not necessarily listening  
11 to each other.

12 There's comments made on this on the people that  
13 are against the pipeline about environmental issues, safety  
14 issues, many of those which have already been addressed, but  
15 when you're focused on that you're not listening to what has  
16 already been done.

17 And the safety issues and a lot of the fear-based  
18 stuff that's going on is just that. It's speculation about  
19 something that might happen. The earthquake issue has  
20 already been taken care of, fire safety, and the --

21 MR. FRIEDMAN: We talked about being respectful  
22 of all speakers.

23 MS. VAN DATTA: They're raising the whole  
24 facility 40-feet off the ground so that if there's a Tsunami  
25 it won't wash out the plant. That's just an example. And

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1 you know, I'm all in favor of jobs. I'm in -- when people  
2 talk about jobs, it makes it sound like it's just all about  
3 me. But in reality, the Coos Bay area is going to benefit  
4 tremendously from this development. It's not just the jobs  
5 building the facility. It's the expansion over the port.  
6 It's the tax base. There's a lot of -- you know, when you  
7 look at the big picture, the benefits outweigh the negatives  
8 and there are negatives, but I believe in my heart that they  
9 can be mitigates.

PM5-108

10 The laws -- we have laws. We have some of the  
11 strongest environmental laws in the nation, and I trust I'm  
12 not one of those people that is going to accuse all of being  
13 morally corrupt or something. I believe you can do your  
14 job. I believe that everybody that's involved can do their  
15 job, and I think it's -- I think the project is probably  
16 going to happen. And I think that the -- what needs to be  
17 done is what -- and mitigation has become a bad word here,  
18 but I think mitigation is the way to go. So, thank you for  
19 your time.

20 MR. FRIEDMAN: Thank you for your comments. And  
21 Steve and I and Miriam and yes, we agree, yes, we're not  
22 morally corrupt. Sorry to correct so many people.

23 MR. GLEICHMAN: I'm Ted Gleichman. Spelled the  
24 same as on Monday and Tuesday, G-l-e-i-c-h-m-a-n. I  
25 represent Sierra Club.

PM5-108

Comment noted.

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1 Coos Bay I said we strongly support the good jobs  
2 goal, DEIS pages 4-786 to 793, which is the only public good  
3 out of this project. But we want those jobs to be in  
4 earthquake and Tsunami infrastructure preparedness and in  
5 clean, renewable energy efficiency, conservation, and smart  
6 grid technology.

PM5-109

7 We need to invest \$7 billion in good union jobs  
8 protecting the coast and inland, and we're committed to  
9 working on that. In Roseburg, I noted that FERC is  
10 violating its own standards on cumulative impacts, page  
11 4-1001, failing to follow CEQ guidelines to truly reflect  
12 the natural boundaries of the project. This must include  
13 the true atmospheric, climate disruption impact, which is,  
14 in fact, global.

PM5-110

15 This failure to genuinely address cumulative  
16 impacts is also reflected in the claim that this project is  
17 solely local to southwest Oregon. This is clearly not true,  
18 and environmental and economic impacts extend throughout the  
19 state, region, and nation.

PM5-111

20 I've worked in the devastated fracking fields of  
21 the Rockies where a lot of this export gas would come from.  
22 They will clearly be impacted, cumulatively. This project  
23 will induce more fracking and these natural boundaries have  
24 also been excluded. The project will also damage U.S.  
25 energy security and increase U.S. energy costs.

PM5-112

## PM5

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PM5-109 Comment noted.

PM5-110 Cumulative effects are addressed in section 4.14. See the discussion on climate change in section 4.14.3.12.

PM5-111 The DEIS did not fail to address cumulative effects. They are addressed in section 4.13 of the DEIS.

PM5-112 See the response to IND1-3.

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1 Legally, FERC must consider "non-environmental"  
2 economic factors such as markets and rates, DEIS executive  
3 summary, page 1; yet, the Commission has failed to establish  
4 comprehensive public procedures to examine these, not even  
5 assessing the project's financial viability by examining its  
6 funding and its financial protections for the public.

PM5-113

7 These hills are full of the environmental and  
8 economic residue of earlier corporate abuse, such as Silver  
9 Butte and the Formosa Mine. The Commission has also set up  
10 a Catch 22 by refusing to consider a programmatic EIS,  
11 looking at all U.S. LNG financial and energy impacts. The  
12 Commission and some of its agency partners, especially the  
13 U.S. Department of Energy, not represented here, have short  
14 circuited the information needed for rational, fair  
15 consideration of whether the project is in the best interest  
16 of the United States.

PM5-114

17 This is not acceptable. We, therefore, dispute  
18 the conclusions on the DEIS, pages 1-20 to 22. LNG is also  
19 not a climate solution. I have materials on that, which I  
20 can distribute to anyone who's concerned about that in this  
21 entire room, not just red or green. And I'll speak to that  
22 tomorrow. Thank you.

PM5-115

23 MR. FRIEDMAN: Thank you for your comment. Next  
24 is Beth Gwynn. Did I get that right?

25 MS. GWYNN: It's Beth Root Gwynn, B-e-t-h,

## PM5

## Continued, page 97 of 115

PM5-113 The EIS considers effects on the environment, including the human environment. The Commission will consider economic factors, such as markets and rates, as well as the environmental effects, in making its decision.

PM5-114 Comment noted.

PM5-115 Comment noted.

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PM5

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1 R-o-o-t, G-w-y-n-n. And we've been -- some people have  
2 talked about the big picture and asked us to talk about the  
3 big picture, and I want to do that.

4 The documents, which I have not had an  
5 opportunity to read, but I know that they don't want us to  
6 talk about the really big picture, which has to do with the  
7 impacts of fracking and the affects that it costs -- the  
8 energy costs that it takes to even create LNG gas.

PM5-116

9 With fracking, folks have referred to it, but you  
10 know, really those details are horrific. What you just said  
11 about the Rockies, poisoned water, sick people, earthquakes  
12 in Kansas. It's not okay. It is morally reprehensible, I  
13 think, for the people of this region to participate in and  
14 benefit from short-term jobs for some people with the  
15 destruction that's happening in other parts of this country  
16 around fracking. We don't have any business benefiting from  
17 that.

18 And you all have the responsibility to look at  
19 the whole picture and protect those people from us, from  
20 what few benefits the pipeline could bring to workers.

21 I want to say I respect the workers that have  
22 spoken today. I also feel like looking at the really big  
23 picture I feel a little bit crazy. I feel like I am in a  
24 room full of highly skilled lemmings who are asking us to  
25 race off of the cliffs into extinction of species, into

PM5-116

See the response to IND1-3.



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1 destruction of ecosystems, into poisoning of water and air.  
2 So, there are lots of other not quite imagined yet ways,  
3 although I've heard reference to them, highly skilled folks  
4 could be working on the solar farms and the wind farms and  
5 harnessing the damn waves in Coos Bay to give us energy if  
6 we want to give Coos Bay some development.

7 So, I think that's my little list of horrors. I  
8 think folks did talk some about the energy that it takes to  
9 turn natural gas into LNG that includes the cost of what it  
10 takes, energy-wise, to get those ships across the ocean.  
11 That's why you'll hear some of say from time to time LNG is  
12 more energy polluting and costly to the planet than coal is  
13 when you really run the numbers. Right? Right.

14 So, I too am affected by this proposal. I'm on  
15 the board of Oregon Women's Land Trust, which is an  
16 organization that's been around for some 38 years, a  
17 conservation organization dedicated to preservation of  
18 forestland and the pipeline -- imagine our astonishment.  
19 We're dedicated to the preservation of forestland and they  
20 propose to come right through this old growth property on  
21 BLM land next to us and our hundreds-of-year-old madrone  
22 trees. There is no money that the pipeline companies could  
23 offer us --

24 MR. FRIEDMAN: Beth, you need to come to a  
25 conclusion, please.

PM5-117

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PM5-117

Comment noted. Impacts on old-growth forest are addressed in section 4.5.1.

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1 MS. GWYNN: -- that would replace those trees or  
2 the cougars or the spotted owls or the great grandchildren  
3 of the people in this room.

4 MR. FRIEDMAN: Thank you for your comments. Next  
5 speaker is Lance Schroeder. After Lance is Lisa Sanderson  
6 Fox, and then Holly Halterman. And if you guys could line  
7 up, that'll make things go quicker. I appreciate that.

8 MR. SCHROEDER: My name is Lance Schroeder,  
9 S-c-h-r-o-e-d-e-r.

10 This pipeline is going to fail, a hundred percent  
11 change it's going to fail by an earthquake, by some methnax  
12 with a drill, a great idea, and an empty tank. I hope that  
13 it fails right here right now. If it fails after it's  
14 built, it could be catastrophic. Let alone, the act of  
15 building it would be a disaster and tragedy for millions of  
16 plants and animals, many of them in danger of going extinct.

PM5-118

17 We're now in the middle of a massive extinction  
18 event. This is the sixth known massive extinction event in  
19 the last half a billion years. Humans have been proven to  
20 be the cause of it. These pipelines, this deforesting,  
21 these corporations, these governments are the cause of it.  
22 We need to stop it. OR7 is part of Wonder and their pipes  
23 don't want this pipe built. Nature doesn't want this pipe  
24 built. These landowners who they're going to try to steal  
25 their land don't want this pipe built. I don't want this

PM5-119

## PM5

## Continued, page 100 of 115

PM5-118 Welded pipelines have responded well to earthquakes in other areas with similar conditions, such as Chile. See the discussion on seismic risks in section 4.2.2.2.

PM5-119 Comment noted.

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1 pipe built. Nature has a right and a need to exist.

2 Pipelines do not.

3 MR. FRIEDMAN: Thank you for your comments,  
4 Lance. I'm glad to know that OR7 has a name Wonder. Next  
5 is Lisa Sanderson-Fox and Holly Halterman.

6 MS. SANDERSON: That's S-a-n-d-e-r-s-o-n hyphen  
7 F-o-x.

8 Just brief comments, many of the things that I  
9 was going to say have already been said. I'm in full  
10 agreement with many of the critiques of the EIS. The  
11 document is too long to digest in such a short period of  
12 time, so I'm absolutely requesting an extension for a  
13 comment period. But for the time that I was able to spend,  
14 I do want to say that the issue around, for example,  
15 earthquakes has not been dealt with or has not been  
16 adequately addressed in the EIS.

17 Just one quote from this draft says, "It is not  
18 possible to completely mitigate the risk of pipeline damage  
19 in Coos Bay resulting from lateral spreading during a mega  
20 thrust seismic event," and that is in the document itself.  
21 So, obviously, this has not been adequately addressed. We  
22 also -- it also states that there will be chronic sources of  
23 fine sediment load in the many stream crossings that --  
24 we're talking about 400 waterways being crossed in this  
25 pipelines. Also, those waterways are vulnerable to what

PM5-119  
Cont.

PM5-120

PM5-121

PM5-122

PM5-123

## PM5

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PM5-120 The FERC decided not to extend the 90-day period for comments on the DEIS past February 13, 2015.

PM5-121 This statement is not correct. Earthquakes risks to the LNG terminal, including soil liquefaction, lateral spreading, subsidence, and tsunamis, are addressed in section 4.2.1.3 (pages 4-244 to 4-250). Earthquake risks to pipelines are addressed in section 4.2.2.2. The discussion addresses regional seismicity, ground shaking, and peak horizontal ground acceleration surface rupture from faulting, soil liquefaction, lateral spreading, and other potential impacts (pages 4-259 to 4-266).

PM5-122 Section 4.6.2.3 concludes that sediment entering fish streams would be short-term and modeling indicates that sediment would likely be within the normal fall/winter turbidity levels within 300 to 500 feet downstream of the crossing. Crossings would typically be completed during the state-approved in-water work window.

PM5-123 Earthquake risks to pipeline, including from soil liquefaction, are addressed in section 4.2.2.2.

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PM5

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1 they call soil liquefaction, which are also results of  
2 seismic events. And I feel like that has not been  
3 adequately addressed.

PM5-123  
Cont.

4 Having a large -- having an extensive pipeline at  
5 a center of a clear-cut is not an adequate buffer for  
6 wildfire, and I feel like if this -- the FERC's  
7 responsibility is to protect the public interest. I feel  
8 like the small amount of local jobs that would go to local  
9 southern Oregon residents is not adequate to compensate for  
10 the miles and miles of old growth habitat, streams,  
11 endangered species that will be jeopardized by this  
12 pipeline.

PM5-124

13 And the tradeoff just doesn't seem like an  
14 adequate justification for public interest, and not to  
15 mention, of course, the fact that we're talking about  
16 TransCanada, a multi-national corporation benefitting from  
17 all of these impacts. And also for those people who are  
18 concerned about quality union jobs, this natural gases will  
19 be exported to non-free trade countries, so those jobs on  
20 the other end of where this natural gas is arriving those  
21 aren't good jobs. Those are hard jobs that are underpaid  
22 and poor conditions. So, feel like if you want to look at  
23 the big picture there's a lot of issues here that are not  
24 being adequately addressed. Thank you.

25 MR. FRIEDMAN: Thank you for your comment. Holly

PM5-124

Comment noted.

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1 Halterman.

2 MS. HALDERMAN: (Off mike.)

3 MR. FRIEDMAN: You may.

4 MS. HALTERMAN: They're bringing up the prop.

5 Last night we had a 36-inch prop for a gas line. Tonight  
6 what we're going to demonstrate is the actual width of the  
7 easement, and this does not include all of the size zones.

8 This is a 100-foot wide representation of the  
9 easements that are being proposed through our forests. The  
10 pipeline would affect 400 water bodies, crossing them  
11 multiple times. It will cross 150 miles of forests, and 23  
12 miles of shrubs and grasslands, 42.4 miles will be late  
13 successional old growth reserve, causing the harvest -- hear  
14 this number -- of 1,712 acres of mature trees and timber.  
15 Two million acres of watersheds will be impacted, two  
16 million acres.

17 You've concluded that this would result in  
18 limited environmental impacts. How is that possible? There  
19 is no one succinctly even represented with respect to the  
20 environment here. The Environmental Protection Agency  
21 addresses the need as follows "The cumulative impacts  
22 analysis should identify how resources, ecosystems, and  
23 communities in the vicinity of the project have already been  
24 or will be affect by past, present, or future activities in  
25 the project areas.

PM5-125

PM5-126

**PM5**

**Continued, page 103 of 115**

PM5-125

Impacts on old-growth forest are addressed in section 4.5.1.2. Impacts on federally-listed threatened and endangered species are discussed in section 4.7. Please note that the 400 streams are spread over 19 fifth-field watersheds covering over 2 million acres. The comment statement that over 2 million acres will be impacted is not correct. For example, trees would be cut on approximately 1,712 acres out of the 2 million plus acres. This represents less than 1,000th of 1 percent of these 2 million-plus acres.

PM5-126

The cumulative effects section does do this. See section 4.14.

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1 "These resources should be characterized in terms  
2 of their response to change and capacity to withstand  
3 stresses. This data should be used to establish a baseline  
4 for the affected resources to evaluate the significance of  
5 historical degradation and to predict the environmental  
6 affects of the project components."

7 In spite of the critical nature and obvious  
8 importance of clearly establishing the current ecological  
9 condition so that its capability or the lack, thereof, to  
10 respond to additional impacts brought about by the proposed  
11 project might be established you chosen to completely omit  
12 the segment on affected environment from the DEIS for the  
13 Jordan Cove and Pacific Connector Project.

14 I want to repeat that. In spite of its critical  
15 importance, FERC has chosen to eliminate the section  
16 describing the current condition of the affected environment  
17 from the Jordan Cove DEIS. This is a violation of the NEPA  
18 regulations at 40 C.F.R. 1502.15 and ignores the  
19 recommendations of the Environmental Protection Agency.

20 We are talking about 1,712 acres of mature trees,  
21 400 water bodies, 150 miles of forests, and 23 miles of  
22 shrubs and grasslands. Two million acres of watersheds will  
23 be impacted. This is our home.

24 MR. FRIEDMAN: Thank you for your comments. I'm  
25 going to read several names, and I'd like them to line up

PM5-127

**PM5**

**Continued, page 104 of 115**

**PM5-127**

While there are no headings that say Affected Environment or Current Conditions, the current conditions are discussed at considerable length for each resource in chapter 4. For example, see the discussion on upland vegetation conditions on pages 4-28 to 4-48.

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PM5

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1 behind the microphone so we can move along. Bob Nichols,  
2 Buzz Fromherz, Sunya Ince-Johansen, and Debbie Kappel.  
3 MR. NICHOLS: Okay, so if a few years ago someone  
4 had told me that a foreign corporation could use eminent  
5 domain to take someone's personal property to export a  
6 strategically important fuel, I wouldn't have believed it.

PM5-128

7 I would not have believed it. I'm a believer now.  
8 So, all I can say is what would Thomas Jefferson  
9 say, you know. Okay. So, I got my eminent domain threat  
10 letter in March 2014, saying that they have status and  
11 appeal. I had to respond by June 2013. All right, so I had  
12 to respond to almost a year before to have status -- anyway,  
13 I thought that was kind of interesting.

14 Anyway, the -- what I get out of the deal is I  
15 get a 97-acre pipe yard 500 feet from my bedroom on my  
16 neighbor's property, and so that means there is no  
17 compensation for me. That means I get to live with ear  
18 plugs in for the next I don't know how -- so anyway, I'm  
19 representing my farm and my family and my private property.

20 I do not support the project. I think it's  
21 outrageous that a foreign corporation can utilize eminent  
22 domain to take citizen's private property with little  
23 compensation, certainly less than appraised value. That's  
24 outrageous. Private property owners are expected to carry  
25 the risk without the gain. Benefits go to the seller, not

PM5-129

PM5-128

Comment noted.

PM5-129

Comment noted.

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1 to us. And the project is going to increase the cost of  
2 natural gas in the U.S., so how does that benefit us? I  
3 just -- I'm not seeing it.

4 Anyway, that's all I have. I wish you guys a  
5 good evening. Thanks for the opportunity to comment.

6 MR. FRIEDMAN: Thank you for your comment. Buzz  
7 Fromherz next.

8 MR. FROMHERZ: Yes, he is. That would be me.  
9 Fromherz, F-r-o-m-h-e-r-z. And I'm a duck fan. I'm heading  
10 back up the road, and I knew this was going on, so I thought  
11 I'd stop in here and just see what's happening here.

12 You know, I observed this whole thing and this is  
13 what's neat about America is we have people that obviously  
14 live here. They live here because they want to live in  
15 Oregon or California. I respect all you people for that.

16 Liz Matteson, is she back in here? I don't know  
17 if you were finished with your conversation, but you made a  
18 lot of sense. She brings up some issue, and she's asking  
19 for help. How are we going to fix these things, and that's  
20 how this country works and that's how we want to make sure  
21 that we have a good check and balance here.

22 And I don't mean to turn my back on you guys  
23 here.

24 MR. FRIEDMAN: That's fine. Use the microphone.

25 MR. FROMHERZ: We have a great system and it's a



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PM5

Continued, page 107 of 115

1 check and balance. And when you have an equal power of  
2 check and balance, you have a great project. This is an  
3 awesome project. With your help, with your input, and with  
4 the skill that these people have here you can make this the  
5 best project I've ever seen.

PM5-130

6 I started choker setting in Idyllwild above  
7 Roseburg when I was 18, just turned 18. My dad took me down  
8 here and gave me a job and I worked my butt off for a couple  
9 of years up here. It's a gorgeous country. I've also been  
10 a steamfitter, so I've worked on pipelines and I've worked  
11 on this stuff. I understand both sides. You guys don't  
12 want to see this, but you still have to accept the fact that  
13 these guys are the best this industry and the world has  
14 here.

15 Whether you trust what's going on, that has to do  
16 with you guys. They trust you that you have their best  
17 interest in mind. So, get together and get some information  
18 like this gentleman here had, like Liz has, and put it  
19 together in a format and take care of it and make this the  
20 best project, safe, economical, ecological, and make it the  
21 best project this world has ever seen. And go ducks. You  
22 guys are wearing Alabama colors, so I do not like you. I'm  
23 just kidding. Thank you.

24 MR. FRIEDMAN: Thank you for your comment. Next  
25 is Sunya and then Debbie Kappel, then James Ince, then Jeff

PM5-130

Comment noted.

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1 Gritz.

2 MS. INCE-JOHANSEN: Good evening. My name is  
3 Sunya Ince-Johansen. That's spelled S-u-n-y-a, and then  
4 Ince, I-n-c-e hyphen Johansen. Thank you, first of all, for  
5 giving us this opportunity to give feedback on this project  
6 and thank you to everyone for your great comments, very on  
7 point, very interesting, and thank you for making a lot of  
8 my points for me. It makes me have to talk less because I  
9 have a cold.

10 So, first of all, I would like to ask for an  
11 extension for the 90 days is not enough time to adequately  
12 address the issues in the DEIS. So, I have lived in this  
13 area, more or less, my entire life and I want only the best  
14 for, not only the people who live here, but also the  
15 ecosystems that sustain us.

16 Given the extensive, negative environmental  
17 impacts of this project, particularly those not addressed in  
18 the DEIS, the pipeline does not provide enough benefits to  
19 Oregonians to justify this project. Roughly a thousand jobs  
20 for a few years does not justify the hazards to human health  
21 and livelihood, ecosystems, and our sensitive and endangered  
22 plant and animal species.

23 The DEIS does not adequately address risks  
24 regarding earthquake and Tsunami hazards, wildfire risks,  
25 fracking, and of course the big one, climate change. Oregon

PM5-131

PM5-132

PM5-133

## PM5

## Continued, page 108 of 115

PM5-131 The FERC decided not to extend the 90-day period for comments on the DEIS past February 13, 2015.

PM5-132 Comment noted.

PM5-133 Earthquakes risks to the LNG terminal, including soil liquefaction, lateral spreading, subsidence, and tsunamis are addressed in section 4.2.1.3 (pages 4-244 to 4-250). Earthquake risks to pipelines are addressed in section 4.2.2.2. The discussion addresses regional seismicity, ground shaking and peak horizontal ground acceleration surface rupture from faulting, soil liquefaction, lateral spreading, and other potential impacts (pages 4-259 to 4-266).

PM5

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1 stands for clean, renewable energy, not LNG exports, which  
2 when all is said and done, they are just every bit as dirty  
3 as coal.

PM5-133  
Cont.

4 Oregon's economy should be grown through clean,  
5 renewable energy jobs, healthy fisheries, tourism, and  
6 recreation, not the same old, dirty energy jobs. There is a  
7 reason why this pipeline has been rejected everywhere else  
8 along the West Coast. Let's not the community that let it  
9 happen out of desperation and economic hardship. There are  
10 so many other better ways to get our feet back under us.

11 Lastly, there've been some significant changes in  
12 the global oil markets in the past few weeks. A deal  
13 between China and Russia has made LNG exports from North  
14 America very unprofitable. If we need any more reason to  
15 reject this project, this is it. It will not be profitable  
16 in the long run for any of the parties involved. Thank you.

17 MR. FRIEDMAN: Thank you for your comments. Next  
18 is Debbie Kappel.

19 MS. KAPPEL: I'm kind of new to all of this. My  
20 mom died in 19 -- excuse me -- in 2008 and I ended up moving  
21 out here on land that was established and homesteaded by my  
22 great, great grandparents. This land is four miles from  
23 where this pipeline is supposed to go through. There are  
24 days that I can sit there and I can actually watch the water  
25 jugs vibrate a little bit. I drive up the hill a little bit

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1 longer and I can see these landslides that have happened  
2 during the day.  
3 This land is unstable. You are only going to be  
4 doing destruction of natural beauty. Most of the points  
5 that -- pretty much have been made here, but I just don't  
6 understand. I mean I come from Chicago, Gary area where  
7 there is just nasty and dirty and the water is undrinkable  
8 and the pollution you can't even freaking breath the air  
9 because it's so nasty. And I come to Oregon for clean air  
10 and clean water, and I find the same thing happening here.  
11 It just astounds me.  
12 And fracking, you know darn well that the LGN  
13 will be -- it will be done by fracking. This ruins so much  
14 of the water. I mean it takes hundreds of years in order to  
15 have it come through, and the Tsunami zones, Tsunami zones  
16 putting LNG containers on sand dunes opposite a runway for  
17 an airport I mean, my God, I might as well be back in the  
18 Chicago Army Corps of Engineers and watching them do  
19 disasters there. I mean it's just phenomenal to me.  
20 Mom took me down to watch McCormick Place burn  
21 one day because McCormick Place in Chicago was this  
22 unburnable building that could never, ever be destroyed.  
23 Sounds like the Titanic, right? You know, and I'm hearing  
24 all the green shirts going, oh, this is safe. This is safe.  
25 And I have to wonder because this is the type of stuff you

PM5-134

PM5-135

PM5-136

**PM5**

**Continued, page 110 of 115**

- PM5-134 Comment noted. See the response to your previous comment.
- PM5-135 See the response to IND1-3.
- PM5-136 Earthquakes risks to the LNG terminal, including soil liquefaction, lateral spreading, subsidence, and tsunamis are addressed in section 4.2.1.3 (pages 4-244 to 4-250).

PM5

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1 see in Chicago with all the union guys coming out that don't  
2 have any jobs that the union guys -- the union bosses are  
3 saying you got to go there. You got to speak up. You have  
4 to like support this for jobs, and there are no jobs really  
5 coming out of this. It's only pollution and destruction.

6 Fracking in other areas -- Texas has banned  
7 fracking. I mean, hopefully, Oregon will get on board with  
8 that too. I mean I know, of course, we're not going to  
9 frack our own water. We're just going to destroy it with  
10 pipelines. Do you know how they <sup>can</sup> do you know how they  
11 discover when the pipelines are leaking out there in the  
12 cornfields in Illinois and Indiana? They do an aerial  
13 observation to find out where the grass is dead over the  
14 pipelines. This is how they do it.

15 I'm sure that the union guys could do good. I  
16 know Oregon economics is just got to flow. You got to do  
17 something, but it's not a pipeline. This is not the way to  
18 do it.

19 I also too would like to see an extension because  
20 90 days is not enough to look over all this paperwork. I  
21 don't like public speaking. This is my second time that  
22 I've gotten up as an interested party because this thing is  
23 just too close. This is my front yard, and I came here,  
24 like I said, to get away from all the pollution and all the  
25 crap that goes on back in the Midwest.

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1 MR. FRIEDMAN: So, I know you're going to wrap up  
2 right now.

3 MS. KAPPEL: Yeah. And a foreign-owned company  
4 coming out here to destroy it I just don't get it.

5 MR. FRIEDMAN: Thank you for your comments. All  
6 right, James Ince.

7 MR. INCE: My name is Ince, James, J-a-m-e-s,  
8 I-n-c-e.

9 Thanks for being here. Thanks for taking our  
10 comments. Our property is nearly surrounded by the Umpqua  
11 National Forest east of Azalea, south of here.

12 My understanding is in order for FERC to approve  
13 this project there must be demonstrable financial viability.  
14 Within the past six months, Russia and China signed two  
15 large natural gas deals, clearly calling this viability into  
16 question. Actually, U.S. natural gas producers may be  
17 seeing the dream of substantial LNG exports go down the  
18 drain because of Russian exports to the Chinese market.  
19 This had been expected to be the largest and most profitable  
20 for LNG exporters.

PM5-137

21 Without going into the math, I'll only say that  
22 according to petroleum geologist and consultant, Art Berman,  
23 Russian supply will force the price of LNG delivered to Asia  
24 down to between 10 to \$11, too low for American LNG exports  
25 to be profitable.

**PM5**

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PM5-137

The Commission will consider financial issues; the EIS addresses environmental effects.

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1 Lastly, FERC, ask yourself why would Oregon  
2 approve this abomination when Veresen's own country rejected  
3 their project in British Columbia, as did the States of  
4 Washington and California?

5 I also request an extension of the comment  
6 period. Thank you.

7 MR. FRIEDMAN: Thank you for your comment. Is  
8 Jeff Gritz here? Jeff is our last speaker.

9 MR. GRITZ: Thank you. Jeff Gritz, G-r-i-t-z.  
10 I'm a representative of Laborers Local 121. I have about --  
11 I strongly support this project mainly for the jobs. We  
12 have, you know, 3 to 400 members alone in our Local in the  
13 southern half of this region that this -- this would impact  
14 us greatly and the area.

15 I want to make a point of clarification to the  
16 DOE analysis that has been quoted tonight referencing the  
17 general price increases focused on prices in the Gulf Coast.  
18 That, indeed, says costs ^^^ that costs would rise 25  
19 percent at the Henley Hub by 25 percent. It's still less  
20 than what we were paying five years ago. But in that -- the  
21 DOE report it did state that for our area, because we aren't  
22 bottlenecked like the Gulf Coast, we'd only see a 5 percent  
23 increase, which is negligible for the economic injunction  
24 we'll see from this project.

25 As a representative of the public and private

PM5-138

PM5-139

PM5-140

## PM5

## Continued, page 113 of 115

PM5-138 The FERC decided not to extend the 90-day period for comments on the DEIS past February 13, 2015.

PM5-139 Comment noted.

PM5-140 Comment noted.

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1 sector unions down in southern Oregon and across  
2 three-quarters of the state, actually, you know these are  
3 very depressed regions of Oregon and we need the jobs. We  
4 need the revenue. We need this project.

5       Yeah, you know, Texas may see some job loss. As  
6 far as I'm concerned, who cares? You know, Oregon will  
7 finally see job creation that we desperately need. It's our  
8 turn for jobs, and we need them. It would bring so much  
9 money to the economy. I mean over \$30 million a year to  
10 these areas, you know.

11       And I want to clear up another too is the jobs.  
12 You hear these ludicrous comments about outsourcing six jobs  
13 for a whole pipeline and all this. I mean there's lots of  
14 permanent jobs, over 100 plus permanent jobs. There's lots  
15 of, you know, construction jobs that are temporary. In our  
16 construction contracts, which will be applied to these --  
17 this pipeline and to this plant -- I mean our contracts  
18 guarantee better than 50 percent of local hire people, and  
19 in some cases more.

20       So, those are the comments that, you know, most  
21 of you folks wouldn't understand, but it brings more than  
22 six jobs to this project. Thank you.

23       MR. FRIEDMAN: Thank you for your comment.  
24 That's our last speaker on the list, which concludes our  
25 meeting.



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PM5

Continued, page 115 of 115

1           On behalf of the FERC and our federal cooperating  
2 agency partners, I'd like to thank you for coming here  
3 tonight, providing us with your comments on our DEIS for the  
4 Jordan Cove/Pacific Connector Project. Let the record show  
5 that this meeting ended at 9:10 p.m. Thank you.

6           (Whereupon, the meeting was adjourned at 9:10  
7 p.m.)

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1

PM6

PM6

Public Meeting, Oregon Institute of Technology, December  
12, 2014

1                               BEFORE THE  
2                               FEDERAL ENERGY REGULATORY COMMISSION  
3   - - - - - x  
4   IN THE MATTER OF:                               : Project No.  
5   JORDAN COVE - PACIFIC CONNECTOR               : CP13-483-000  
6   PIPELINE PROJECT                               : CP13-492-000  
7   - - - - - x  
8  
9                               Oregon Institute Of Technology  
10                               3201 Campus Drive  
11                               Klamath, OR 97601  
12  
13                               Friday, December 12, 2014  
14                               The above-entitled matter came on for technical  
15   conference, pursuant to notice, at 6:00 p.m., Paul Friedman,  
16   the moderator.  
17  
18  
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24  
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2

PM6

Continued, page 2 of 75

1 P R O C E E D I N G S

2 MR. FRIEDMAN: Good evening. On behalf of the  
3 Federal Energy Regulatory Commission, which is abbreviated  
4 F-E-R-C. We call it FERC or the Commission, and our federal  
5 cooperating agency partners I would like to welcome you to  
6 this public meeting to take comments on the Draft  
7 Environmental Impact Statement or DEIS, issued by the FERC  
8 on November 7, 2014 for the Jordan Cove Local Fraction and  
9 Pacific Connector Pipeline Projects, often just called the  
10 project.

11 My name is Paul Friedman, and I'm the  
12 environmental project manager for the FERC. Here next to me  
13 is another FERC employee, Steve Busch. He's the assistant  
14 project manager. Next to Steve is Miriam Liberatore, who is  
15 the BLM project manager. Next to Miriam is Wes Yamamoto,  
16 who is the Forest Service project manager and hiding in the  
17 audience someplace is Kristen Hyatt. There she is. She is  
18 the Bureau of Reclamation project manager.

19 In the far back we have John Scott and John  
20 Crookston, who work for Tetra Tech. They're my third-party  
21 contractors who help us produce the DEIS. And there's Paul  
22 Uncapher who is from North State Resources, and they are the  
23 third-party contractors of the BLM and Forest.

24 Let the record show that this meeting began at  
25 approximately 6:00 p.m. on Friday, December 12, 2014, here

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PM6

Continued, page 3 of 75

1 at the Oregon Institute of Technology in Klamath Falls.  
2 As you can see, this meeting is being recorded  
3 and transcribed by a court reporter on behalf of the FERC so  
4 there will be accurate notes on tonight's proceedings. The  
5 court reporter is an employee of Ace Federal Reporters,  
6 which is an independent contractor.  
7 Ace will sell copies of the transcript at  
8 various sliding scale prices, beginning from same day to  
9 five business days after this meeting. If you'd like a copy  
10 of the transcript prior to its being posted on the FERC  
11 public record, you must make arrangements directly with Ace.  
12 If you'd like to speak at tonight's meeting,  
13 please go back to the Johns at the table at the back of the  
14 room and you can sign our speakers' list. We'll be calling  
15 people to speak later tonight in the order in which they  
16 sign up on the list. Please print your name legibly so I  
17 can read it, but even then sometimes I still have trouble  
18 pronouncing people's names.  
19 The production of the DEIS was a collaborative  
20 effort, involving a number of federal cooperating agencies,  
21 including the BLM, Forest Service, Corps of Engineers,  
22 Department of Energy, EPA, Coast Guard, Fish and Wildlife  
23 Service, the Bureau of Reclamation, and the Department of  
24 Transportation.  
25 The cooperating agencies had an opportunity to

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PM6

Continued, page 4 of 75

1 review an administrative draft and some agencies contributed  
2 text to the DEIS. For example, the BLM and the Forest  
3 Service and their third-party contractor wrote sections of  
4 the DEIS related to their evaluation of proposed amendments  
5 to an individual district and National Forest Land  
6 Management plans to make provision for the pipeline.

7 In a few minutes, the BLM and Forest Service  
8 representatives will explain the actions of their agencies.  
9 I would like to thank the federal cooperating agencies  
10 partners for their participation in our environmental review  
11 process.

12 The FERC is an independent federal agency that  
13 regulates, among other things, the interstate transmission  
14 of natural gas. When we were created by Congress in 1920 we  
15 were known as the Federal Power Commission, but under Jimmy  
16 Carter we changed our name and were reorganized. The  
17 Commission is headed by five people who are appointed by the  
18 President of the United States and approved by Congress.  
19 They're the five commissioners who are the decision makers  
20 for our agency

21 Steve and I were not appointed by the President.  
22 Unfortunately, we are mere civil servants. The  
23 Commissioners will take recommendations the staff, people  
24 like Steve and I, prior to making any of their decisions.  
25 Our recommendations for this project can be found in Section

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PM6

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1 5.2 of the DEIS.

2 In accordance with Energy Policy Act of 2005 and  
3 the Natural Gas Act, the FERC is the lead federal agency  
4 responsible for authorizing onshore liquefied natural gas or  
5 LNG terminals and interstate natural gas transmission  
6 facilities. We are the lead agency for compliance with the  
7 National Environmental Policy Act of 1969, which is  
8 abbreviated as NEPA.

9 Our DEIS was prepared to satisfied the Council  
10 on Environmental Quality's regulations for implementing the  
11 NEPA. The federal cooperating agencies can adopt the EIS  
12 for their regulatory needs and to comply with the NEPA;  
13 however, each individual agency would present their own  
14 conclusions in their respective records of decision.

15 The FERC record of decision will be found in the  
16 form of a commission order. That order will be issued only  
17 after the Final EIS has been produced. What this means is  
18 that there has been no decision so far about this project  
19 and that decision will have to wait until after the staff  
20 produces a Final EIS.

21 Jordan Cove Energy filed their application with  
22 the FERC on May 21, 2013, under Section 3 of the Natural Gas  
23 Act in Docket No. CP13-483-000, seeking authority to  
24 construct and operate an LNG export terminal at Coos Bay.

25 Jordan Cove intends to produce about 6 million

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PM6

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1 metric tons per year of LNG from a supply of about 1 billion  
2 cubic feet of natural gas per day for shipment by  
3 third-party vessels to customers around the Pacific Rim.  
4 Jordan Cove already had permission from the Department of  
5 Energy to export to both free trade agreement and non-free  
6 trade agreement nations.

7       The main facilities at the terminal would  
8 include a 420-megawatt power plant, a natural gas processing  
9 plant, four liquefaction trains, two LNG storage tanks, a  
10 transfer pipeline and loading platform, a marine slip with  
11 docks for LNG vessels and tugboats, and access channel  
12 connecting to the existing Coos Bay navigation channel.

13       Pacific Connector Gas Pipeline filed its  
14 application on June 6, 2013 with the FERC in Docket Number  
15 CP13-492-000, under Section 7 of the Natural Gas Act.  
16 Pacific Connector seeks authority to construct and operate a  
17 232-mile long, 36-inch diameter underground welded steel  
18 transmission pipeline between the Malin hub and the Jordan  
19 Cove terminal.

20       The pipeline route would request portions of  
21 Klamath, Jackson, Douglas, and Coos County, Oregon. Near  
22 Merlin, the Pacific Connector would connect with existing  
23 pipeline systems that are owned and operated by Gas  
24 Transmission Northwest or GTN, and Ruby Pipeline, which we  
25 abbreviate as Ruby, to obtain natural gas produced in

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1 western Canada and the Rockies Mountains.

2 For full disclosure, Ruby is partly owned by one  
3 of the partners in both Pacific Connector and Jordan Cove.  
4 GTN is owned by a company called TransCanada.

5 The Pacific Connector Pipeline would have a  
6 designed capacity of 1.07 bcf a day with 0.04 bcf a day  
7 dedicated to delivery to the existing Northwest Pipeline  
8 Grants Pass Lateral to serve customers in Oregon. Again,  
9 for clarification, Northwest is owned by one of the partners  
10 of Pacific Connector.

11 Other the facilities associated with the Pacific  
12 Connector Project included a 41,000 horsepower compressor  
13 station near Merlin, two receipt meter stations for GTN and  
14 Ruby within the compressor station track, the Clark's branch  
15 delivering meter station at the interconnection with  
16 Northwest, a delivery meter station at Jordan Cove, five pig  
17 launchers and receivers, 17 mainline valves, and 11  
18 communication towers.

19 Jordan Cove would receive in its natural gas  
20 supplies from the Pacific Connector Pipeline; therefore,  
21 although these are two separate applications before the FERC  
22 we are considering them connected actions and evaluated the  
23 environmental impacts of both Jordan Cove and Pacific  
24 Connectors proposals together in one comprehensive DEIS.  
25 That's one of the reasons why it's such a large documents.



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1 It's actually like three EISs together, one EIS for Jordan  
2 Cove, one EIS for the pipeline, and one EIS evaluating plan  
3 amendments for BLM and Forest Service.

4 The two companies, Jordan Cove and Pacific  
5 Connect, also share some ownership overlap. I want to make  
6 it very clear that the project is being proposed by two  
7 private companies, Jordan Cove and Pacific Connector. The  
8 companies came up with the design for their facilities and  
9 the location of their facilities. And it's the FERC's job  
10 to analyze the environmental impacts associated with the  
11 construction and operation of those facilities in our DEIS.

12 The FERC is not advocate for the project. The  
13 FERC is an advocate for the environmental review process.  
14 The Commissioners will make their own independent decision  
15 about whether or not this project has any benefits and would  
16 be in the public interest. So, the EIS is not a document  
17 that discloses public benefits or purpose and need in any  
18 great extent. All of those issues are covered by the  
19 Commissioners in their project order.

20 During our review of the project, we assembled  
21 information from a variety of sources, including the  
22 applications and data responses of the companies, public  
23 input, data provided by other federal, state, and local  
24 resource agencies, and our own research. Our analysis can  
25 be found in the DEIS.

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1           We sent copies of the DEIS out to our  
2 environmental mailing list, which includes elected  
3 officials, federal, state, and local agencies, regional  
4 environmental groups, and non-governmental organizations,  
5 affected landowners, Indian Tribes, commenters and other  
6 interested parties, local newspapers and libraries, and  
7 parties to the proceeding.

8           Paper copies of the DEIS were only sent to those  
9 who requested them in writing in response to our Notice of  
10 Intent. All others received a compact disk or CD version.

11           Everyone who received a copy of the DEIS will  
12 also be sent a copy of the FEIS. You do not have to sign up  
13 again. However, if you did not receive a copy of the DEIS  
14 and you want to be sent a copy of the FEIS, please go to the  
15 back of the room, and sign up on our environmental mailing  
16 list with the Tetrattech team. You can also use that list to  
17 request a hard copy of the FEIS if you only got a CD of the  
18 DEIS. And there are no more hard copies of the DEIS  
19 available.

20           About 72 miles of the Pacific Connector pipeline  
21 route would cross federal lands, including 40 miles of BLM  
22 land, 31 miles of Forest Service land, and less than a mile  
23 of Reclamation land.

24           At this point, I want to introduce Miriam  
25 Liberatore, representing the BLM and the Forest Service, and

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1 she will explain the actions of those agencies.

2 MS. LIBERATORE: Good evening and thank you for  
3 coming. I'm Miriam Liberatore. I with the Medford District  
4 of the BLM, and I am the project manager for the BLM for the  
5 Pacific Connector Pipeline Project.

6 I wanted to talk to you tonight about the  
7 actions that the BLM and the Forest Service are going to  
8 take and also make clear a point of process on this, but  
9 we'll get to that.

10 We are involved in the pipeline where it crosses  
11 federal lands. And by federal lands I mean lands  
12 administered by the BLM, the Forest Service, and the Bureau  
13 of Reclamation. So, we do not have an involvement in Jordan  
14 Cove over in Coos Bay and we have no involvement where the  
15 pipeline crosses over private lands. We have decisions to  
16 make on this project and those involve the right-of-way  
17 grant that would be needed to cross federal lands and  
18 proposed amendments to our land management plans. And I'm  
19 going to talk to you about both of those.

20 As is proposed in the right-of-way grant now, as  
21 Paul mentioned - I mean in the Draft EIS now, as Paul  
22 mentioned, the project would cross 70 some miles of federal  
23 land. And to cross them and to occupy them during operation  
24 and maintenance, the Pacific Connector would need a grant,  
25 just as anybody would need a grant to cross BLM lands for

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1 any purpose. And some of you may cross BLM land for your  
2 driveways, for example.

3 They have applied for a grant to the BLM and the  
4 BLM will review the application and make a decision. The  
5 authority to make the decision is the BLM's and it comes to  
6 us from the Mineral Leasing Act of 1920. We'll decide  
7 whether to grant or deny the right-of-way, and Forest  
8 Service and Reclamation they would concur. We would ask  
9 their concurrence on our decision.

10 As far as the land plan amendments go, the  
11 project, as proposed, could not conform to the current land  
12 management plans for the BLM and Forest Service. And if it  
13 doesn't conform to the plans, we can't consider a grant for  
14 the right-of-way.

15 So, we have policies in place that do allow us  
16 to amend our plans, and we have proposed amendments in the  
17 Draft EIS that would allow the project to conform with land  
18 management plans and enable us to consider a grant.

19 There are 20 amendments and all proposed in the  
20 Draft EIS and described there. Four of them have to do with  
21 the BLM, fifteen with the Forest Service, and one is a joint  
22 amendment for both agencies. They address issues having to  
23 do with our survey and manage guidelines, our habitat  
24 retention guidelines for northern spotted owl and marbled  
25 murrelet and a bunch of other environmental conditions

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1 having to do with soils, riparian areas, visual quality  
2 objectives, and a proposal to convert some of our metrics  
3 lands, which is where we have our timber bases over to lake  
4 successional reserves and that's to mitigate direct loss of  
5 lake successional reserves were the pipeline footprint would  
6 cross them.

7 The areas affected are for the BLM Medford  
8 District, the Roseburg District, the Coos Bay District, and  
9 of course the Klamath Falls resource area of the Lakeview  
10 District. And for the Forest the areas affected are the  
11 Umpqua National Forest, the Rogue River National Forest, and  
12 the Winema National Forest here.

13 These decisions require us to follow the NEPA  
14 process and we are doing that as cooperating agencies to  
15 FERC. And FERC's EIS is our EIS for those proposals. And I  
16 want to be very clear about that. It's become apparent to  
17 me over the week that that is not as clear as it should be.  
18 The process for commenting on the BLM and the Forest Service  
19 actions is the FERC process, so you're in it now. And if  
20 you have comments to make about our proposals, Paul will  
21 tell you in a few minutes exactly how to make your comments  
22 so that they go in the record.

23 I want to thank you for coming tonight. We're  
24 glad to see you, and we're looking forward to hearing what  
25 you have to say. So, please either tell us tonight or tell

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1 us in writing. Thank you very much.

2 MR. FRIEDMAN: Thank you, Miriam.

3 We are now at the beginning of a 90-day period  
4 for taking comments on the DEIS. Comments can be filed with  
5 the Commission up until February 13, 2015. The FERC keeps  
6 the consolidate record for these proceedings, so please do  
7 not send your comments to the BLM and the Forest Service.

8 Also, do not send me any personal emails.  
9 There's an organization out there who is misinforming the  
10 public that they can send me comments via my email. It's  
11 absolutely not true. Those comments will not be considered  
12 by the Commission. Only comments filed on the record will  
13 be considered by the Commission. And here's how you can do  
14 that.

15 First, you can -- and this is explained in our  
16 Notice of Availability that was issued on November 7, 2014.  
17 People have been asking where they can find the instructions  
18 I'm currently giving you, and that's where. You can get a  
19 copy of the Notice of Availability through the E-library  
20 link in the FERC website, which is [www.FERC.gov](http://www.FERC.gov). You can  
21 then go to documents and filings and then E-library and  
22 everything in the record is in E-library.

23 So the way you can put your comments into  
24 E-library is one, using what we call our E-comment feature  
25 on the FERC webpage, or second, you can use the E-filing

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1 feature on the FERC webpage, or third, you can write a  
2 letter the old fashion way to the Secretary of the  
3 Commission at 888 First Street, N.E., Washington, D.C.  
4 20426.

5 And again, you can find all of these  
6 instructions in our Notice of Availability issued November  
7 7, 2014 and you can find that through the Internet on  
8 E-library at [www.FERC.gov](http://www.FERC.gov). Always remember to mark your  
9 comments with the docket numbers CP13-483-000 for Jordan  
10 Cove and CP13-492-000 for Pacific Connector.

11 Lastly, you can give oral comments tonight at  
12 this meeting and they're being transcribed and every comment  
13 given tonight will go into the public record.

14 All comments received, whether written or oral,  
15 will be given equal weight by the FERC staff and will be  
16 addressed in our Final EIS. It does not matter if your  
17 comments were submitted the first day the DEIS was issued on  
18 November 7 or on the last day when the comment period closes  
19 on February 13, 2015.

20 While the purpose of tonight's meeting is to  
21 take verbal comments on the DEIS, given the limited time  
22 each presenter will have this forum, I urge you to send in  
23 more detailed comments into the FERC, either electronically  
24 or in writing. The more specific your comments the better  
25 we can address your concerns.

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1           Comments like I'm in favor of this project or I  
2   am against this project are not particularly helpful from an  
3   environmental standpoint. Those are not environmental  
4   comments. And this is not a popularity contest nor is it an  
5   election.

6           Last night somebody said how many people are  
7   opposed to the project and everyone in the room raised their  
8   hand. Well, that's not how the Commissioners make their  
9   decisions. Instead, try and focus your comments on  
10   environmental issues raised in the DEIS.

11           After the comment period ends on February 13,  
12   2015, the FERC staff and our third-party contractor,  
13   together with the federal cooperating agencies, will review  
14   the comments and address them in the FEIS. The FERC will  
15   issue a Notice of Schedule in the near future that will  
16   present a new date for the issuance of the FEIS and the  
17   90-day period for all other federal authorizations.

18           No decision about approving or not approving  
19   this project has been made by the Commissioners at this  
20   time. The EIS is not a decision document. The  
21   Commissioners will look at the findings in the EIS, together  
22   with non-environmental and environmental factors such as  
23   markets, tariffs and rates before they make their decision  
24   about whether or not to authorize the project.

25           If the Commissioners authorize the project,



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1 they'll do so in a project order, and only parties to the  
2 proceeding, known as interveners, may legally question that  
3 decision. The FERC's requirements for filing a motion to  
4 intervene can be found under Title XVIII, Code of Federal  
5 Regulations, Part 385.124.

6 While the period for filing a motion to  
7 intervene has passed, the Commissioners will consider  
8 requests for late intervention with good cause. Typically,  
9 affected landowners and those with legitimate environmental  
10 concerns who could not be represented by another are  
11 considered to have good cause for intervention; however,  
12 simply filing a comment will not give you intervener status.

13 But you do not need to be an intervener to  
14 comment on the environmental impact statement. Any  
15 intervener may seek a re-hearing of the Commission's order.

16 If the Commission authorizes this project,  
17 construction may not begin until after Jordan Cove and  
18 Pacific Connector obtain all other necessary federal permits  
19 and approvals.

20 At a minimum, this includes biological opinions  
21 from the Fish and Wildlife Service and National Marine  
22 Fisheries Service under the Endangered Species Act; a  
23 right-of-way grant for the pipeline issued by the BLM, under  
24 the Mineral Leasing Act with concurrence from the Forest  
25 Service and Reclamation; permits under the Clean Water Act,

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1 Section 404, Section 10 of the Rivers and Harbors Act to be  
2 issued by the Corps of Engineers; water quality  
3 certification under Section 401 of the Clean Water Act  
4 issued by the Oregon Department of Environmental Quality;  
5 air quality permits issued by the ODEQ, and a determination  
6 by the Oregon Department of Land Conservation and  
7 Development that the project would be consistent with the  
8 Coastal Zone Management Act.

9 In addition, the Energy and Facilities Siting  
10 Council of the Oregon Department of Energy must approve the  
11 South Dune Power Plant, which is associated with Jordan  
12 Cove's terminal.

13 Jordan Cove and Pacific Connector must document  
14 that all pre-construction conditions in the of the FERC's  
15 order have been met before we would allow construction to  
16 begin. After construction begins, it will be monitored by  
17 the FERC staff and the federal land managing agencies.

18 Now is the part of the meeting that you've been  
19 waiting for, where you, the public get to speak. I remind  
20 you that the purpose of this meeting is to hear public  
21 comments on our DEIS. In general, I will not be responding  
22 to your comments tonight unless you ask an administrative  
23 question that I happen to know the answer to; otherwise,  
24 I'll just be listening. We will address all your comments  
25 in the Final EIS after we have done the appropriate

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1 research.

2 So, here are some ground rules for this comment  
3 meeting. After I call your name, please come to the  
4 microphone up here at the front; speak clearly into the  
5 microphone so that the court reporter can record what you  
6 have to say. Identify yourself and spell your name. If you  
7 represent an organization, state the name of the  
8 organization. If you are a landowner along the pipeline,  
9 provide us with an approximate milepost of your property or  
10 an address or cross streets.

11 If you have a written summary of your comments,  
12 please give that to the Tetrattech team at the back of the  
13 room, and we'll make certain it gets into the public record.

14 My number one rule show respect to all speakers,  
15 whether you agree with them or not. Please no cheering and  
16 absolutely no booing.

17 Lastly, because of the large number of people  
18 who want to speak, we'll limit each individual's time to  
19 three minutes. Steve has a piece of paper here with yellow  
20 when you're at two and a half minutes and then red at three,  
21 and I will ask you to stop at three minutes so that the next  
22 person has that opportunity to speak.

23 With that, I'm going to call the first person,  
24 which is George Logan. And after George, you can line up  
25 behind him so this will go quicker, William Armstrong, Chuck

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1 Little, and Pat Lara.  
2 MR. LOGAN: Hello. My name is George Logan.  
3 That's G-e-o-r-g-e, L-o-g-a-n, not Frank. And I represent  
4 the Ironworkers Local 29 out of Portland, Oregon.  
5 This is a fantastic opportunity to get a lot of  
6 the building trades in there to build a nice, good size  
7 project. The best thing about these projects the bigger  
8 they are the better the talent. Guys travel from all over  
9 the country to come in here, train the local hands as well  
10 as do a fine job of building. They're usually the safest  
11 jobs because the more talented you have your people the  
12 safer the job's going to be. They're looking out for each  
13 other.  
14 I want to thank everyone on the dais for putting  
15 up for the last five nights. This has been a great  
16 education for myself too because I haven't got to do this  
17 kind of a thing before, but I really appreciate everybody  
18 that showed up tonight and the last five nights because it's  
19 been a great experience.  
20 Again, I represent the ironworkers, along with  
21 the building trades. We've got 200,000 ironworkers across  
22 the United States and Canada, all of them have the  
23 opportunity to come down here and work on this job. So,  
24 we're really looking forward to it and we back it. And  
25 thank you very much.

PM6-1

Comment noted.

PM6-1

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1 MR. FRIEDMAN: Thank you for your comment.

2 Next is William Armstrong.

3 MR. ARMSTRONG: My name is William Armstrong.

4 William Armstrong, W-i-l-l-i-a-m, A-r-m-s-t-r-o-n-g. I

5 represent the Boilermakers Local 242 out of

6 Washington/Spokane.

7 There's a couple points I want to touch on that

8 I've heard over the week from everybody, the concerns. This

9 is a proposal that they are giving us. It's a rough draft,

10 so I would imagine that a lot of these concerns are going to

11 be addressed for the better for the majority of the people

12 when the final product is here.

13 Oregon laws because of all of us in the room and

14 everybody who's participated in this are some of the most

15 stringent in the nation as far as BEQ air quality, so I

16 can't believe that it'll have the emissions impact that

17 everybody have been told about or that they're foreseeing.

18 If there was a clean, cost-effective way to produce energy

19 and power, lights, everything that we need in our day-to-day

20 lives, we'd build it, the boilermakers would with all the

21 other union crafts involved, but that's just not the case.

22 So, these jobs that are here or they're

23 potentially going to be here coming from our local

24 communities, labor pool right here in the state. It's not

25 being outsourced. And I don't see how we can say no to the

PM6-2

PM6-3

PM6-2

Comment noted.

PM6-3

Comment noted.

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1 jobs that this is going to produce when everybody needs  
2 money. Thank you. PM6-3  
3 MR. FRIEDMAN: Thank you for your comment. Next Cont.  
4 is Chuck Little.  
5 MR. LITTLE: My name is Chuck Little, C-h-u-c-k,  
6 L-i-t-t-l-e. I'm a field representative for Laborers Local  
7 121. I'm also the secretary/treasurer of the Pendleton  
8 Building Trades.  
9 On behalf of the Pendleton Building Trade  
10 Council, I urge the Federal Energy Regulatory Commission to  
11 approve the Draft Environmental Impact statement and move PM6-4  
12 forward with the construction of the Jordan Cove LNG  
13 terminal and the Pacific Connector gas pipeline in southwest  
14 Oregon.  
15 The construction of the Jordan Cove LNG terminal  
16 will employ a peak workforce of 2,100 with an average of 930  
17 jobs lasting four years. Construction of the Pacific  
18 Connector gas pipeline will employ a peak workforce of 1,400  
19 with an average of 840 jobs lasting two years. Both of the  
20 projects will pay family living wages and healthcare and  
21 pension benefits.  
22 The Jordan Cove LNG terminal will pay an average  
23 of 25 million per year in property tax in Coos County. The  
24 Pacific Connector gas pipeline will pay an average of 3  
25 million per year in property taxes in Coos, Douglas,

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PM6-4 Comment noted.

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1 Jackson, and Klamath Counties. These counties have suffered  
2 for decades due to the loss of timber jobs in southwest  
3 Oregon. This is a much needed revenue for these counties  
4 for all types of public services.

5 With an estimated cost of over \$7 billion, this  
6 will be the largest project in Oregon history. This will  
7 show the world that southwest Oregon is open for business.  
8 Once construction of the Jordan Cove LNG terminal and the  
9 Pacific gas connector pipeline are completed they will  
10 employ hundreds of people in the day-to-day operators of  
11 these.

PM6-5

12 These projects have been under review for 10  
13 years. Now is the time to move forward with the  
14 construction of both projects. Thank you very much.

15 MR. FRIEDMAN: Thank you for your comment. Next  
16 is Pat Lara. After Pat is Jim Cooksey, then Darin McCarthy,  
17 and then Justin Foudree. Pat.

18 MR. LARA: Patrick Lara, L-a-r-a, right here  
19 representing the Boilermakers Local 242, Portland/Spokane.

20 Being to all the meetings of this last past week  
21 here, some of the heartfelt stories of why not to have this  
22 project happen I understand that it's not going to be all  
23 peaches and cream. I support this project and this is way.

24 How many people in this room have ever opened up  
25 a frig and there not be enough, or driving away from your

PM6-5

Comment noted.

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1 families, your wife, your small children because you have to  
2 leave to go to a job to pay those two house payments that  
3 you're behind. Jobs like this feed my family and keep my  
4 house so they can be warm and safe. PM6-6

5 Visiting the schools, talking to local people,  
6 seeing all the vacant houses, abandoned businesses, this  
7 pipeline is more like a lifeline for this community as well.  
8 Thank you.

9 MR. FRIEDMAN: Thank you for your comment. Next  
10 is Jim Cooksey.

11 MR. COOKSEY: That's Jim Cooksey, C-o-o-k-s-e-y,  
12 no "L."

13 MR. FRIEDMAN: Thank you for correcting me.

14 MR. COOKSEY: Now, let's get one thing clear.  
15 Not everybody in the room raised their hands last night. I  
16 know of at least six or seven that didn't, so get that  
17 clear.

18 Now, I'm Jim Cooksey with the boilermakers.  
19 We're in favor of this project. And I like what Pat said  
20 about a lifeline because I've been driving around this end  
21 of Oregon quite a bit in the last six, eight months and it's  
22 a depressed area. Coos Bay I spent a week in August in Coos  
23 Bay. I talked to a lot of people that lived there, kids,  
24 young people and old people, and the younger folks are eager  
25 to have this in. They need a chance to learn something.

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PM6-6 Comment noted.



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24

1 They need a chance to get some way out of Coos Bay, other  
2 than working on the ATVs or the casino or whatever.  
3 And building trades that will be building this  
4 plant will be training people right there, local people  
5 right there on the site. And once you have a craft, once  
6 you have an ability to do something in the construction  
7 trade, you'll never go hungry again. That was told to me 42  
8 years ago, and it's true.  
9 And I heard last night, it was addressed that  
10 these were temporary jobs. Well, I've been doing temporary  
11 jobs for 42 years and made a pretty damn good living out of  
12 it. So, you know, that holds no water with us. But this  
13 plant is going to provide a lot of jobs, a lot individuals  
14 will have an opportunity to learn a craft and keep it with  
15 them as long as they're able to work.  
16 So, with that, once again the boilermakers are  
17 strongly in favor of this project and hope to see it go.  
18 Thank you.  
19 MR. FRIEDMAN: Thank you for your comment. Next  
20 is Darin McCarthy.  
21 MR. MCCARTHY: My name is Darin McCarthy, and  
22 I'll spell it, D-a-r-i-n, M-c-C-a-r-t-h-y. I know you  
23 butchered it earlier, but it's cool.  
24 But I stand here tonight, and I'm a pretty  
25 passionate guy all the way a round, but I'm a realist too.

PM6-7

PM6-8

PM6

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PM6-7

Comment noted.

PM6-8

Comment noted.

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1 If somebody was to shut these lights off right now, where  
2 would we be at? Each one of you and every one of you in  
3 this place probably have a cell phone, have a battery, one  
4 way or the other you plug it into the wall. Well, believe  
5 it or not folks, it takes power to do that and it takes  
6 energy.

7 The boilermakers we're the ones -- we're the  
8 dirty, rotten bunch that build these boilers the natural gas  
9 plants, over 10 in of them are in this state, we're the ones  
10 who built these that produce your electricity so you can  
11 wash your clothes, put heat in your house, turn on the  
12 lights so you can read something. Every time you go tonight  
13 -- you go to bed I want every time you go flip your light  
14 switch I want you to remember a boilermaker was part of that  
15 'cause that is part of our trade.

16 We are the temporary ones. We're not the 1  
17 percent, not in one way or the other. But what we are we're  
18 people just like everybody else, and we got to have a living  
19 just like anybody else.

20 Now, let me talk a little bit about eminent  
21 domain. I heard a lot about it last night. You know  
22 something, eminent domain, every one of you drive up and  
23 down I-95, didn't you? Was that part of eminent domain?  
24 Every one of you go to Wal-Mart, go to Sherrie's whatever,  
25 was that part of eminent domain?

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PM6

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1 Well, all I can say to you guys is this we got  
2 to be real about it. Whether you like or whether you don't  
3 like it, whether we ship this shit across ^^^ all the way  
4 over to Asia or wherever, power has to be here regardless  
5 whether you like it. If we're going to go back to, what,  
6 horse and buggy? Well, who's going to harness them? Let's  
7 hang with it, okay?

8 But what it comes down to is this, you want to  
9 talk about eminent domain here's eminent domain. The  
10 Williams Pipeline goes from Canada all the way through the  
11 State of Washington all the way through the State of Oregon  
12 right down to the I-5 corridor. Right down it gang. And  
13 you think it's a 10-inch line? No, no, no. It's 36-inch  
14 there.

15 Now let me tell you something. There's another  
16 pipeline and it's called the Ruby and it goes right through  
17 this area.

18 MR. FRIEDMAN: Darin, we're going to wrap up  
19 here.

20 MR. MCCARTHY: So, what I want to say is this  
21 I'm done, but I just want you guys to know this. It's  
22 reality.

23 MR. FRIEDMAN: Thank you for your comment.  
24 Justin Fauderee, then John Hutter, then Albert Devita, and  
25 then Gary Jackson.

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PM6

Continued, page 27 of 75

1 MR. FAUDEER: Justin Fauderee. That's  
2 J-u-s-t-i-n, F-a-u-d-e-r-e-e. I represent the boilermakers  
3 and the apprenticeship of the Boilermakers Local 242.  
4 I'm a graduate apprentice and can't speak highly  
5 enough of all that I've learned and all the valuable things  
6 that I've seen going into the facilities around the state  
7 and seeing how they're built and operated and maintained,  
8 and the safety and excellence that's brought to these  
9 facilities.

10 I just like to reiterate that we're bringing and  
11 involving the best engineering firms and the highest  
12 technologies, the most quality materials available, and the  
13 best, most skilled workforces for this project. I'd also  
14 like to say that with this project we're preparing for the  
15 worse and willing to accept nothing but the best. Thank  
16 you.

PM6-9

17 MR. FRIEDMAN: Thank you for your comment. John  
18 Hutter.

19 MR. HUTTER: Hi. My name is John Hutter,  
20 spelled J-o-h-n, H-u-t-t-e-r. And little bit about me. I  
21 am an electrician by trade for the last 20 years. I am a  
22 part of an electrical workers union called the International  
23 Brotherhood of Electrical Workers, Local 659.

24 So, the most important thing that I can tell you  
25 is I'm a part of about 250 electricians locally here and our

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**PM6**

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1 union was founded on safety. It's a big deal to us, so we  
2 go out and we work in your hospitals. We work in the  
3 schools. We work on power plants. We work on pipelines.  
4 But what I want to tell you as far as the environment, I've  
5 been on two projects here in Modoc County. And in those  
6 projects when we're doing the electrical work we did not  
7 move the soil. We did our portion. The laborers did their  
8 portion. But what I can say is when the soil was moved it  
9 was placed very carefully back in the same area that it was  
10 and I went on Google maps recently, showed my kids the site  
11 that we worked on down near Altouris and you can see the  
12 compression station, but outside of that area and outside of  
13 that fence that's protected by lightening protection in  
14 every single building there there's no area where you can  
15 see the pipeline. It's high desert. It's a beautiful area  
16 outside of Wagner Mountains and it looks the same today as  
17 it was when we first got there.

18 So, if we're going to go in and work on this  
19 particular project, I can tell you that we're going to  
20 handle it with the care that FERC would expect us to, and we  
21 are environmentalist. We fly fish. We kayak. We have  
22 drift boats, and we love the environment. So, we will take  
23 care of that property. And we need the work so that we can  
24 be a part of our community. Thank you.

25 MR. FRIEDMAN: Thank you for your comments.

PM6-10

PM6-10

Comment noted.

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PM6

Continued, page 29 of 75

1 Albert Devita.  
2 MR. DEVITA: Good evening. My name is Albert  
3 Devita. That is D-e-v-i-t-a. I'm a member of Laborers  
4 Local 296, and I've been a member of the Laborers for 33  
5 years. I am also -- I've worked for the international union  
6 in training for about eight years and I'm the training  
7 director now in the State of Oregon.  
8 I have worked on and been around several  
9 pipelines in my career. My experience working and what I've  
10 seen is that there's a high degree of attention paid to  
11 safety. Every person on the job gets site-specific  
12 training, but also every craft person on the job is trained.  
13 There are contractors -- big contractors do these jobs and  
14 they don't do them without a good safety record, and the  
15 same is true for the Jordan Cove Project.  
16 One thing I want to point out is that we're  
17 talking about skill-building trades and they all have joint  
18 labor management training programs, so unions are interested  
19 in taking care of their own people, making sure that they're  
20 safe, making sure that they can go home at the end of every  
21 day. Every union has some type of environmental training  
22 and so there's going to be skilled people working with  
23 skilled contractors putting a lot of attention to detail  
24 into environmental issues that could arise while they're on  
25 the job.

PM6-11

PM6-11

Comment noted.

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PM6

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1 All the trades have apprenticeship program, and  
2 so this is -- right now we have about 50 percent of people  
3 under 25 years old are under employed, 50 percent of the  
4 people in the country under 25 are under employed.  
5 Apprenticeship is a vehicle to get these people out of your  
6 house and my house and into the working world and getting  
7 taxes to come in. And lots of the other brothers have  
8 mentioned the positive impacts to the economy, and so that's  
9 why we should build this. Thank you.

PM6-12

10 MR. FRIEDMAN: Thank you for your comment.  
11 Next is Gary Jackson. And after Gary is Tony Pate, Sandra  
12 Pate, Jerry Pouliot, and Steve Williamson.

13 MR. JACKSON: I'm Gary Jackson. I'm the  
14 business agent for the International Laborers Union Local  
15 296 out of Medford, Oregon.

16 A lot of controversy about this gas line being  
17 owned by a Canadian company and all the profits going to  
18 this Canadian company, well, that's true. It is owned a  
19 Canadian company. And yes, they are going to make profits.  
20 But there's also a chance for the local economies to make a  
21 lot of money off of this thing too.

22 There's already a gas line that is going to hook  
23 into at Myrtle Creek and run back south back into the Grants  
24 Pass area. There's also provisions made for this gas line  
25 to have laterals attached to it so it can provide different

PM6-12

Comment noted.

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1 types of manufacturing in a lot of different remote areas.  
2 Hell, we could put this gas line clear back down into  
3 Josephine County that's really suffering right now.  
4 As far as employment on this job, at Coos Bay  
5 itself there's going to be a peak employment of about 2,100  
6 people there. On the gas line itself, there's going to be  
7 about 1,400 people employed there. Eight hundred to a  
8 thousand of these people are going to be laborers, which are  
9 represented by the laborers union.

10 There's also going to be approximately 150  
11 full-time employees employed at this facility once it's  
12 completed, another 700 indirect jobs, such as restaurant  
13 people, stores, that type of thing, and then another 50  
14 people, 50 jobs which is going to be paid for by the Jordan  
15 Cove folks for public safety people, tugboat drivers and  
16 that type of thing.

17 And FERC has established guidelines and mandates  
18 that have to be met by the Jordan Cove and the pipeline  
19 folks in order to satisfy these permits. So, if these guys  
20 reach those mandates and guidelines that are set forth, I  
21 would recommend and hope that the FERC would issue this  
22 permit so we can proceed with this.

23 Also, I would request that no extensions in time  
24 are allowed on this comment period. Thank you.

25 MR. FRIEDMAN: Thank you for your comment. Tony

PM6-13

PM6-14

PM6-15

## PM6

## Continued, page 31 of 75

PM6-13 Comment noted.

PM6-14 Comment noted.

PM6-15 The FERC decided not to extend the 90-day period for comments on the DEIS past February 13, 2015.



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PM6

Continued, page 32 of 75

1 Pate.

2 MR. PATE: My name is Tony Pate, T-o-n-y,  
3 P-a-t-e, and I represent the United Brotherhood of  
4 Carpenters out of Local 271 run out of Eugene, Oregon.

5 And I stand in favor of this project. There's a  
6 lot of different issues, and we heard a lot of good stuff  
7 tonight. I think on my heart we've heard about youth  
8 getting jobs. Labor unions tend to bring people in, in  
9 apprenticeships, and that's a good thing. The guy just  
10 talked about all the kids that don't have work.

11 The other side or the other point I'd like to  
12 make is the economy in these four counties sucks, and I love  
13 Coos Bay and I live here in Klamath Falls, and I've been  
14 living around a pipeline for a lot of years and it hasn't  
15 really affected me.

16 This money coming from Canada people go, you  
17 know, it's going back to Canada, but if they pay me a wage  
18 here, or if they pay you a wage it pretty much stays right  
19 here, plus the \$3 million approximately per county, which  
20 will go to schools and law enforcement, which we've been  
21 shot in the leg by the timber industry. We don't have a  
22 timber industry any more, so I think this would be a good  
23 use to make a right-a-way cross some of our beautiful  
24 national forest.

25 I happen to be a hunter and fisherman and a

PM6-16

PM6-16

Comment noted.

PM6-17

Comment noted.

PM6-17

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PM6

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PM6-18

Comment noted.

1 hiker, and I've seen more animals in these right-of-ways  
2 than in the deep, dark woods, so there's a benefit there. I  
3 know that with the oversight of your FERC committee and the  
4 Forest Service and the BLM and the BOR, you know, that you  
5 can't pull the wool over anybody's eyes. It will be a right  
6 on project. And like I say, I stand in favor of that. All  
7 jobs are temporary, you know. I've been worker for the  
8 carpenters since 1997 and my favorite day I s when my job  
9 runs out and I'm looking for another one.

10 Now, that might sound weird, but I get a little  
11 bit of a break there. It's treated me real well. And the  
12 other thing about that is there are family wage jobs that,  
13 you know, they pay -- they aren't like a Wal-Mart job.  
14 Excuse me Wal-Mart, but -- so that's a good point. And  
15 between the tax base, the money that'll stay here from the  
16 developers, the permanent and temporary jobs and you know,  
17 it'll make all four counties a lot better. I stand in favor  
18 of the project, but the Jordan Cove and the Pacific  
19 Connector. Thank you.

20 MR. FRIEDMAN: Thank you for your comment. Next  
21 is Sandra Pate.

22 MS. PATE: Hi. I'm one of the wives of the  
23 temporary workers, and it's been really good. And I've been  
24 a person of eminent domain, and it was a pretty good  
25 process. They treated us well. They did good. And it's

PM6-18

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1 nothing bad. And progress is good. Let's do progress. | PM6-19  
2 MR. FRIEDMAN: Thank you for your comment. Next  
3 is Jerry Pouliot, and please correct me if I've  
4 mispronounced your name.  
5 MR. POULIOT: My name is Jerry, J-e-r-r-y,  
6 Pouliot, P-o-u-l-i-o-t.  
7 I've been a carpenter for almost 31 years,  
8 United Brotherhood of Carpenters. In 2008, I was out of  
9 work from 2008, January 2008 to June 2010. And in that  
10 period of time, I spent over \$50,000 of my own savings. It  
11 was hard. But as hard as it was for me, and some of the  
12 people around here in Klamath Falls, it was that much harder  
13 for the past 25 years in Coos Bay/North Bend. And I have a  
14 lot of friends, and it's been very depressed. And it's hard  
15 to have hope when you're living on food stamps and on  
16 welfare and you can't pay your own bills. This would be a  
17 boom for them. This would be a boom for this city, for | PM6-20  
18 everything in between, and it would be great for Oregon, the  
19 rest of the country, and probably even Ukraine. Thank you.  
20 MR. FRIEDMAN: Thank you for your comments.  
21 Next is Steve Williamson. After Steve is Lennie Ellis, John  
22 Clarke, and John Scofield.  
23 MR. WILLIAMSON: My name is Steve Williamson.  
24 That's S-t-e-v-e, W-i-l-l-i-a-m-s-o-n. I am the  
25 representative for the United Food and Commercial Workers.

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**PM6 Continued, page 34 of 75**

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PM6-19 Comment noted.

PM6-20 Comment noted.

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**PM6**

**Continued, page 35 of 75**

1 We are the largest private sector union in the State of  
2 Oregon. We represent over 1,900 people. And we support  
3 this project.

PM6-21

PM6-21

Comment noted.

4 One of the major reasons is it's going to bring  
5 money to our community to keep our members working, and it  
6 also brings in living wages. We feel that there's a large  
7 need for this project to go through so that we can bring  
8 monies into our community and keep our members working.  
9 Thank you.

PM6-22

PM6-22

Comment noted.

10 MR. FRIEDMAN: Thank you for your comment. Next  
11 is Lennie Ellis.

12 MR. ELLIS: My name is Lennie Ellis. I'm the  
13 business manager of -- L-e-n-n-i-e, E-l-l-i-s.

14 I'm the business manager of IEBW Local Union 659  
15 in southern Oregon. We have about 2,000 members that live,  
16 work, and play in all the counties that this pipeline will  
17 be crossing, and we've done a pretty good job of looking at  
18 the impact, environmentally and economically, and we think  
19 the economic impacts far outweigh the minimal environmental  
20 impacts.

21 The area that the pipeline is going to be  
22 running through is crisscrossed by tens of thousands of  
23 miles of transmission distribution electric lines and that's  
24 had minimal impact on the environment to this point. And  
25 also there are many miles of gas transmission lines and gas

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1 distribution lines that Avista serves in this area. There's  
2 been very little impact from those.  
3 My 2,000 members and their families are in full  
4 support of this pipeline. Thank you. PM6-23  
5 MR. FRIEDMAN: Thank you for your comment. Next  
6 is John Clarke. And after John Clarke is John Scofield,  
7 Bill Gow, Clarence Adams, and Bob Barker.  
8 MR. CLARKE: John Clarke, milepost 60. Mayor,  
9 fire chief, police chief of my own development.  
10 I've been confused with some information that  
11 has come out, and I can't reconcile it. And so, I want to  
12 put it into the record what the confusion is.  
13 Back when we were doing the scoping, we were  
14 processing .9 billion cubic feet of gas, but we were using  
15 350-megawatts of power. The proposal now shows  
16 420-megawatts of power, so that's 70-megawatts of power more  
17 producing the same gas. So, there's confusion in that. In  
18 the Draft EIS, there's no restriction for increasing the  
19 volumes of gas just as long as you don't change the  
20 commodity going through the pipe. PM6-24  
21 Now, I presented a paper in one of our hearings  
22 in front of one of the planning commissions, and in it a  
23 member who is probably present here tonight stated that the  
24 pressure in Douglas County in the coastal zone management  
25 area of the pipe would be about 900 psi. It was going to

**PM6 Continued, page 36 of 75**

PM6-23 Comment noted.

PM6-24 Jordan Cove can only use the amount of natural gas specified in the Commission Order. In a filing on January 15, 2015, Jordan Cove clarified that it has designed its facility to receive a maximum of 1.03 billion cubic feet per day (Bcf/d) of natural gas from Pacific Connector and produce a maximum of 6.8 million metric tons per annum (MMTPA) of LNG. The planned non-jurisdictional South Dune Power Plant would generate up to 420-megawatts (MW) of electricity for use by the LNG terminal. This is all disclosed in section 1 of the EIS.

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1 leave Malin at 1480 psi, so if you did the math, you came  
2 out that it lost about three pounds for every mile it  
3 traveled because it only going to be one compressor station  
4 that was in the area of Malin.

5 So, in doing those calculations, there was still  
6 50 miles to go to get to the coast, so you would have a  
7 reduction again of another 150 pounds. So, the  
8 computations are terrible. I mean they're really hard to  
9 compute gas if you figured out all this stuff. But I got a  
10 factor from my friend at the FUC, and it shows that a  
11 36-inch pipe at -- you take the size of the pipe and you  
12 take the pressure and then you -- times this factor of .372  
13 and that tells you what the psi or the discharge or how much  
14 gas is in that 1-foot of pipe.

15 And if you do the math on what I've just told  
16 you, the pressure would be about 750 pounds per pressure at  
17 Jordan Cove, and that is a 52 percent -- that's 52 percent  
18 of what they started with. So, the problem I'm having is  
19 why are we building such a large generation facility when  
20 we're not going to be processing the gas unless, of course,  
21 down the road they're going to put the compressor station  
22 in. And I've said all along they're going in at Clark  
23 Branch and increase the volumes because we know that they  
24 can import 1.55 billion cubic feet of natural gas from  
25 Canada. That's enough. Thank you.

PM6-25

**PM6**

**Continued, page 37 of 75**

**PM6-25**

Pacific Connector can only transport the amount of natural gas authorized by the FERC in its Project Order. There are no plans on the record for a new compressor station at Clarks Branch.

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1 MR. FRIEDMAN: Thank you for your comment. John  
2 Scofield.

3 MR. SCOFIELD: Hi. My name is John Scofield,  
4 affected landowner residing at 1868 Hoover Hill Road,  
5 Winston, Oregon.

6 I had a couple of questions. First of all,  
7 doing some reading trying to get through some of this DEIS.  
8 One I read about my main concern in eminent domain as a  
9 landowner, and this kind of thing is coming right through,  
10 very close to our house, is on their application to FERC I  
11 believe there's supposed to be a box for either a commentary  
12 or a utility company and I haven't been able to find a copy  
13 of their application. Is that public information?

14 MR. FRIEDMAN: Yes. The application is public  
15 and it was filed -- I want to say June of 2013, right? And  
16 it's in CP13-492-000. You go to [www.FERC.gov](http://www.FERC.gov), go to  
17 documents and filings, go to E-library, put in the document  
18 number and the date and you can get the whole application.  
19 John Clarke, the application for Jordan, for Pacific  
20 Connector also includes their engineering calculations for  
21 moving the gas from Merlin to Jordan Cove, including some  
22 interesting drawings you might want to look at.

23 MR. SCOFIELD: Thank you.

24 A follow-up question to that is once they check  
25 a box as either a commentary or a utility, which I believe

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1 is on that application, who verifies that because that seems  
2 to come up a lot in other pipeline cases as no one every  
3 challenge them on who -- if they really are a common carrier  
4 or a utility company.

5 MR. FRIEDMAN: The FERC does not have that box,  
6 so that application -- those boxes aren't checked because  
7 it's not a FERC thing. It's maybe something that's done  
8 locally here in Oregon, but we don't do that at FERC. The  
9 Commission will find it's a public utility when it makes it  
10 order and issues a certificate of public convenience and  
11 necessity.

12 MR. SCOFIELD: Okay.

13 MR. FRIEDMAN: So, it's the Commissioners who  
14 make that decision.

15 MR. SCOFIELD: Commissioners make that decision.

16 MR. FRIEDMAN: They make that decision.

17 MR. SCOFIELD: Okay. Along with that, though,  
18 becomes this power of eminent domain.

19 MR. FRIEDMAN: That is correct, not until after  
20 a certificate is issued.

21 MR. SCOFIELD: Okay, who -- I guess, because my  
22 understanding is it's either a common carrier utility and  
23 they've got to qualify for either one of those two or --

24 MR. FRIEDMAN: All they need is a certificate of  
25 public convenience and necessity issued by the Commissioners



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1 and that gives them eminent domain.  
2 MR. SCOFIELD: Okay. Okay. Great. That's all  
3 I needed to know. Thanks.  
4 MR. FRIEDMAN: Thank you for your comments.  
5 Bill Gow.  
6 MR. GOW: My name's Bill Gow, B-i-l-l, G-o-w. I  
7 live at Clarks Branch Road, Roseburg, Oregon.  
8 I've worked against this thing for about seven  
9 years now. I've probably put more time in this thing than  
10 the project will last, but there's 5,000 pages in this Draft  
11 EIS, which most people, I assume, have probably not even  
12 read it, listening to the comments, and you know, you take  
13 that over 90 days that's 55 pages a day that I have to  
14 absorb.  
15 Okay, you throw in the holidays. You throw in  
16 all this other stuff that's going on that we want to do some  
17 things with and it's one thing just to blow through it.  
18 It's another thing to really try to read this thing.  
19 A person like me I'm very, very heavily  
20 impacted. There's more than me for this thing than just a  
21 couple years of work, okay. This thing's going right  
22 through my ranch. It affects -- it ruins our family's  
23 operation forever, not just for a couple of years and you  
24 move on to somewhere else. This thing ruins me forever.  
25 And after the construction is all gone, guess who has to

PM6-26

**PM6**

**Continued, page 40 of 75**

PM6-26

After installation of the buried pipeline, the right-of-way would be restored, and a rancher could grow hay or pasture on the surface and graze livestock right over the pipeline. The company would compensate landowners for any damages.

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1 deal with this mess, me and my family.  
2 Okay, the DEIS does a horrible job of addressing  
3 what happens after everybody's gone. I've tried to read  
4 through this thing and find different areas. I'm not all  
5 the way through it, but it does a horrible job of addressing  
6 the long-term, heavily impacted people like myself. It's  
7 more addressed to the short-term stuff.  
8 If this is such a great project, eminent domain  
9 shouldn't even be needed. You know, if all these people are  
10 in favor and want it, you know, there should be plenty of  
11 people's property for this thing to go on besides mine.  
12 But it's a funny thing out of 300 and some landowners 90  
13 percent of us are against it. So, if there's so many people  
14 thinks it's such a great deal, checkerboard it over on their  
15 property. You don't it. Okay. And that's what's really  
16 bad about this thing.  
17 Take eminent domain off the table. You  
18 shouldn't need it. And you know, eminent domain had its  
19 place. It's been used for the good of American people.  
20 This does not good for the American people, and it does not  
21 good -- yeah, it does provide a few jobs, but there's a lot  
22 more to life than that. And us people have went out and put  
23 something together and we don't want it ruined by some  
24 foreign company.  
25 There is -- 4.8 of the DEIS, at 2.14 states that

PM6-27

PM6-28

PM6-29

**PM6**

**Continued, page 41 of 75**

- PM6-27 Long-term impacts of the Project are addressed in the EIS. Section 2.6 of the EIS discusses operation and maintenance of facilities.
- PM6-28 The U.S. Congress decided to convey the power of eminent domain to private companies that receive a Certificate from the FERC when it passed section 7(h) of the NGA in 1947. The Commission would make its decision on public benefit in its Project Order.
- PM6-29 Douglas County issued a land use compatibility statement for the Pacific Connector pipeline in the portion of the county outside the coastal management zone. In the coastal zone, Douglas County issued a conditional use permit to Pacific Connector in 2009, which was amended and affirmed in 2014 by the Board of Commissioners allowing the Project. The Oregon Department of Land Conservation and Development (ODLCD) determines consistency with the Coastal Zone Management Act (CZMA). Their review is ongoing and a determination has not yet been made. Pacific Connector is required by FERC to file ODLCD's determination once available and will only be allowed to proceed if approved under the CZMA.

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1 Pacific Connector has a permit for Douglas County. That is  
2 not true. That is tied up. There's just full of stuff like  
3 that. It said in this EIS for the people who have actually  
4 sat down and read it, it's a very inadequate thing

5 You address the Clark Branch meter station in  
6 there. It's not even on Clark Branch Road any more from  
7 what I can understand and read in there. It's been moved  
8 down to Dole Road, or that's where it's going to cross the  
9 lateral, but it's so poorly addressed is there that you  
10 can't even tell what's going on in this thing.

11 If it is moved to Dole Road, it heavily impacts  
12 me. I need to know that stuff. The whole thing is just for  
13 the people who actually try to read this thing and actually  
14 try to study it and actually find out and have a dog in the  
15 fight this thing is a horrible EIS, and I would like to ask  
16 for an extension period and I would like to see this thing  
17 redone where it actually addresses today's problems and  
18 addresses where the alternate routes and stuff, not just  
19 what's been printed back in there. Thank you.

20 MR. FRIEDMAN: Thank you for your comments.  
21 Next is Clarence Adams.

22 MR. ADAMS: Clarence Adams, C-l-a-r-e-n-c-e,  
23 A-d-a-m-s. I'm an affected landowner, milepost 55.8, and  
24 I'm representing Landowners United.

25 There's a -- as Bill mentioned, there a bit of

PM6-29  
Cont.

PM6-30

PM6-31

PM6-32

**PM6**

**Continued, page 42 of 75**

- PM6-30 The Clarks Branch Meter Station is described in section 2.1.2.2, and the location is shown on the pipeline facility maps included in appendix C. The station is not directly on Dole Road, but nearby just to the east at approximately MP 71.5, connected to Dole Road by a proposed new permanent access road.
- PM6-31 The FERC decided not to extend the 90-day period for comments on the DEIS past February 13, 2015.
- PM6-32 The FEIS addresses comments raised on the DEIS.

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1 confusion in this document. On page 4-991, it states "The  
2 pipeline will be buried 24 to 36-inches deep." We've been  
3 told three feet all along. We've doubted that. That needs  
4 to be cleared up.

PM6-33

5 Also, I would propose that anytime the pipeline  
6 crosses ground that needed to be worked in the future that  
7 it be at least 6-foot deep, and I would like FERC to do  
8 that. I believe you have that purview.

PM6-34

9 Also, I would like an explanation of this  
10 statement. It's on 5-18. It says, "Along the route we were  
11 unable to identify communities containing a  
12 disproportionately high percentage of minorities, low-income  
13 household, elderly, children, and non-English speakers, or  
14 other vulnerable populations the project would adversely  
15 affect." What the hell does that mean? It's a question.

PM6-35

16 MR. FRIEDMAN: Remember I said I would answer  
17 all questions in the FEIS.

18 MR. ADAMS: Okay. I'll look forward to this  
19 one. And the example of the I-5 Corridor and eminent  
20 domain, one of our county commissioners brought that up at  
21 one of the meetings in Douglas County to justify his support  
22 for that, and I thought at the time that was the stupidest  
23 example I ever heard, and I kept my mouth shut.

24 Well, I will not do that again. The only way  
25 that example would qualify was if I-5 was built by a single

**PM6**

**Continued, page 43 of 75**

PM6-33 See section 2.4.2.1 of the FEIS. Pacific Connector stated it would bury its pipeline up to 36 inches deep in Class 1 areas with normal soils and 24 inches deep in Class 1 areas with consolidated rock. The trench may be deeper at stream crossings with scour concerns, or areas with geological hazards.

PM6-34 You can negotiate that request with Pacific Connector for the easement crossing your land.

PM6-35 It means that the pipeline route would not cross communities identified to have a much greater percentage of people below the poverty line or minorities than the state average. See section 4.9.2.9 in the FEIS.

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1 company who only had their trucks running on it and wouldn't  
2 let anybody else on it. Thank you.

3 MR. FRIEDMAN: Thank you for your comment. Next  
4 is Bob Barker. And after Bob is Robert Moore, Dan Bailey,  
5 Al Shropshire, and Mark Barrows.

6 MR. BARKER: Good evening to you all. Bob  
7 Barker, B-o-b, B-a-r-k-e-r. You ought to have that part  
8 squared by now.

9 You know, as a landowner, you know, the eminent  
10 demand issue, you know, obviously we disagree with the use  
11 of eminent domain in this particular set of circumstances.  
12 We realize that that's a part of the Natural Gas Act when  
13 you approve the project, which I no doubt the certificate  
14 will be issue and the power of eminent domain goes with  
15 that, so that leaves us no option, other than to fight the  
16 project until the end, which, of course, we will do. But I  
17 think it's -- you know, in a review of an environmental  
18 impact report and there's been lots of commentary, much of  
19 that has not had anything to do with the environmental  
20 impact report.

21 I can assure you that I and various  
22 organizations that I work with will be very, very thorough  
23 in reviewing all 5,000 pages of that document and we will  
24 before the date, whether it's February 13 or later,  
25 depending on what is finally done. You will get very, very

PM6-36

## PM6

## Continued, page 44 of 75

### PM6-36

The U.S. Congress decided to convey the power of eminent domain to private companies that receive a Certificate from the FERC when it passed section 7(h) of the NGA in 1947.

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1 thorough comments. We want the best product we can get.  
2 Obviously, we'll continue to work to defeat the project, but  
3 we want a good EIS.

4 And I certainly commend you for listening to all  
5 these comments, and we'll do our best to get you information  
6 that will help you with a better product. Thank you.

7 MR. FRIEDMAN: Thank you for your comments. And  
8 of course, we look forward to seeing your detailed, written  
9 comments. Going back, these are things I've said before,  
10 but I'll just reiterate them. The first word of the  
11 document is draft, and we know it's not perfect, and we hope  
12 that these comments that we get will help us perfect that  
13 document.

14 The other thing about eminent domain, and I've  
15 said this before too, before the FERC issues a certificate  
16 we hope that the pipeline will work in good faith with  
17 landowners and reach an agreement. If eminent domain is  
18 used, it is local courts that determine the price of the  
19 property, not Williams, not the FERC.

20 UNIDENTIFIED MALE AUDIENCE MEMBER: You are an  
21 industry man. That is so ridiculous.

22 MR. FRIEDMAN: You know what, Bill, it's not  
23 ridiculous. It's true.

24 UNIDENTIFIED MALE AUDIENCE MEMBER: It is  
25 ridiculous.

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PM6

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1 MR. FRIEDMAN: It's the law, and that's the way  
2 it works.

3 UNIDENTIFIED MALE AUDIENCE MEMBER: No, it  
4 isn't. I thought the law said the last offer.

5 MR. FRIEDMAN: No, no, no, if you go to eminent  
6 domain, you don't have an agreement. If there's no  
7 agreement, all right, the two parties don't agree, then a  
8 local court will set the price, not Williams and not the  
9 FERC.

10 UNIDENTIFIED MALE AUDIENCE MEMBER: That's the  
11 last piece.

12 MR. FRIEDMAN: The very end of the process.  
13 Exactly. Clarence got it. Thank you. So, this is Robert  
14 Moore.

15 MR. MOORE: That is correct, Mr. Chairman on the  
16 panel.

17 MR. FRIEDMAN: No, I'm just Paul.

18 MR. MOORE: Pardon?

19 MR. FRIEDMAN: My name is Paul.

20 MR. MOORE: Okay, Chairman Paul.

21 MR. FRIEDMAN: No, not chairman.

22 MR. MOORE: Throw that out there anyway.

23 Anyway, I'm a resident of the county. I live in  
24 the proximity of the pipeline's pathway, an active person  
25 within the community.

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PM6

Continued, page 47 of 75

1 MR. FRIEDMAN: Name please.

2 MR. MOORE: My name is Robert Moore,

3 R-o-b-e-r-t, M-o-o-r-e.

4 MR. FRIEDMAN: Thank you.

5 MR. MOORE: I'm in support of the project. I | PM6-37

6 have been involved with utilities systems all my life and I

7 see that there's no major problem with this one. People are

8 concerned about some of the other aftermath; they might look

9 at what the Ruby Pipeline results are and how they've put

10 that together in the cleanup and the re-growth on that, the

11 rebuild of that particular pipeline, which will a similar

12 experience with the 36-inch line going over to Coos Bay.

13 I am in support of this. Primarily, I look to

14 the future. Energy is the backbone of our economy and we

15 are an area most everybody here knows our economy is very

16 poor. Looking ahead, this does give us opportunity for

17 additional support. We do have pipelines coming in from

18 other sources. People have been living with those. They've

19 been in our proximity for some period of time, so the safety

20 and the installation of those are not quite as well, but

21 what our newer technology provides us.

22 So, I am in strong support because I'm looking

23 ahead at what this can provide us, and new industry and

24 other things will have a demand for natural gas or any other | PM6-38

25 type of energy because that is the engine of our community.



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PM6

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1 And hopefully, we will move our communities into a more  
2 active and economically sound base for the people that live  
3 here. And maybe one day we'll have jobs for our own  
4 youngsters who are growing up here.

PM6-38  
Cont

5 So, otherwise, I'm just going to put down I'm  
6 supporting. I will be submitting a letter to your group via  
7 the processes described, and I will leave it at that point.  
8 And again, I put down that I'm supporting the project.

9 MR. FRIEDMAN: Thank you for your comment. Dan  
10 Bailey, then Al Shropshire, and then Mark Barrows.

11 MR. BAILEY: Hello. I'm Dan Bailey, D-a-n,  
12 B-a-i-l-e-y, the president of Southern Oregon Building and  
13 Construction Trades Council, and a member of Local 290.  
14 Thank you very much for this forum for allowing everyone to  
15 speak.

16 I know there's been -- I'm going to repeat a lot  
17 of stuff. This project, an \$8 million -- is almost nearly  
18 \$8 billion for this project to be built here, at peak on  
19 both projects, approximately 3,500 construction workers. I  
20 heard something last night about the Mastech Project that  
21 was ran over there and done by a non-union outfit did that  
22 project.

23 We were the champions of that project getting to  
24 the agencies, of doing all the legwork, all the pictures,  
25 the documentation, getting it to the proper agencies and

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1 getting them fined, getting them actually kicked off of that  
2 project. It was poorly done. We went back in, fixed the  
3 leaks on those pipes, and tried to do the best we could in  
4 fixing the problems.

5 MR. FRIEDMAN: Dan, I'm going to have you  
6 clarify the project you're talking about. It is the Coos  
7 County Pipeline. Correct?

8 MR. BAILEY: Correct.

9 MR. FRIEDMAN: Was that FERC jurisdictional?

10 UNIDENTIFIED MALE AUDIENCE MEMBER: No.

11 MR. FRIEDMAN: No is the correct answer.

12 MR. BAILEY: No. Okay.

13 MR. FRIEDMAN: It's not FERC's jurisdiction.

14 MR. BAILEY: Okay. But you know, I heard that  
15 last night in a statement that was brought up at the meeting  
16 last night, and I just wanted to reiterate that, you know,  
17 we are very environmentally conscious on these projects.

PM6-39

18 And I just wanted to point that out. Thank you.

19 MR. FRIEDMAN: Thank you for your comment. Al  
20 Shropshire.

21 MR. SHROPSHIRE: My name is Al Shropshire,  
22 S-h-r-o-s-h-i-r-e, and I represent Local 290, the Plumbers  
23 and Steamfitters. We have approximately 4,300 members.  
24 Most of them live here in Oregon. They're plumbers,  
25 steamfitters, and pipeliners. We're the guys that actually

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PM6-39 Comment noted.

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PM6

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1 weld the pipe up on the pipelines.

2 And there's been a lot comments here tonight  
3 about the validity of this project. And of course, we're  
4 certainly in favor of it. I had the good fortune to in 1992  
5 work on the PGE-PGT pipeline that actually ran from Canada  
6 to Fresno, California through Oregon, Washington, and the  
7 State of California, and I worked on the spread right here  
8 out of Klamath Falls.

PM6-40

9 And I guess I never really had an opportunity to  
10 thank the citizens of Klamath Falls for that job. It was a  
11 really nice job. We were treated very well here in the  
12 community, and I think we treated the community very well.  
13 We spent a lot of money living here, and I think it was a  
14 good deal all around.

15 But our members certainly want these jobs, and  
16 we certainly want the environment protected. Every single  
17 one of us love to be outside, hunt, fish, take a walk in the  
18 woods.

19 And so thank you very much. We're just hoping  
20 that the process goes smoothly and the law is followed all  
21 the way around. I hope the property owners are protected  
22 and the project is built. Thank you.

23 MR. FRIEDMAN: Thank you for your comments.  
24 Next is Mark Barrows, then Wanda Baker, then John Mohlis,  
25 and then Charles Massey.

PM6-40

Comment noted.

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1 MR. BARROWS: That's Mark Barrows with a "K,"  
2 B-a-r-r-o-w-s. I'm a local 271 carpenter.  
3 I am in support of this. The funds generated | PM6-41  
4 through taxes -- I love Klamath and Coos Bay, and it's been  
5 said before. They're broke. They're broke counties. We  
6 could use the tax money. And this project at the Bay could  
7 be a humungous stepping stone for big things over there.  
8 So, thank you, in support.  
9 MR. FRIEDMAN: Thank you for your comments.  
10 Wanda Baker.  
11 MS. BAKER: Hi. My name's Wanda Baker,  
12 W-a-n-d-a, B-a-k-e-r. I want to thank you tonight for  
13 letting us do this.  
14 My concerns are with milepost 78 through 91. I  
15 am a landowner. We have a lot of riverbanks and there's a  
16 lot of damage that can be done because of loose soil. We  
17 have a lot of high water in those areas at certain times,  
18 obviously in the winters, creates a lot of problems. I do | PM6-42  
19 not see how this pipeline can go across some of these creeks  
20 that we have. The look like little, tiny streams, but in  
21 the wintertime they rage and you can see 3- and 4-foot  
22 through stumps, things of that sort, full trees going down  
23 the river or the creek.  
24 I'm concerned about the steep terrain. We have | PM6-43  
25 a lot of slides in that area. If we should get forest fires

**PM6 Continued, page 51 of 75**

- PM6-41 Comment noted.
- PM6-42 Section 4.4 discusses stream crossing methods for large and small streams and BMPs to minimize erosion and restoration of stream banks.
- PM6-43 The EIS includes an extensive evaluation of landslide hazards and outlines measures for crossing steep terrain; see section 4.2.

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1 and you see it on TV tonight, every night, these people are  
2 flooding because of fire situations where there's nothing to  
3 hold the soil back. This is going to impact a lot of  
4 things.

PM6-43  
Cont

5 The loss of timber, in our property alone you're  
6 going to be dividing it. It's going cause problems with us  
7 to be able to log it. It's going to cause problems. We  
8 can't cross over the pipeline. These are concerns that we  
9 have about what you're doing with that kind of thing.

PM6-44

10 The avenue that will be created from the fire  
11 where you're going to have to have your right-of-way kept  
12 clear you're going to have brush that's going to grow up.  
13 You're going to have grasses. This is an absolute freeway  
14 for not only all kinds of vegetation that are not going to  
15 be pleasant. Some of them are going to create a fire  
16 situation. You're going to have people on ATV wheelers that  
17 are going to go through those. Gates and fences don't stop  
18 them. They go around, or they cut it down. Then that  
19 becomes our headaches. We have to take care of that. No  
20 sheriff is going to come out there and do it.

PM6-45

21 We have springs that are going to be impacted.  
22 Some of these feed our homes. And if the pipeline goes  
23 through, something happens to any one of those then that's  
24 an expense and a cost for us to try and find an alternative  
25 for the water.

PM6-46

PM6-47

**PM6**

**Continued, page 52 of 75**

PM6-44

We address impacts on timber in section 4.5 of the EIS. You may have to negotiate deeper burial of the pipeline for road crossings on your property; however, the pipe would be buried and would not obstruct the movement of equipment or logs across the easement.

PM6-45

The EIS addresses fire risk in section 4.5. In section 2, it is discussed that the right-of-way would be mowed and maintained on a periodic basis.

PM6-46

Sections 4.8.1.2 and 4.10.2.5 of the EIS addresses OHV controls.

PM6-47

As stated on page 4-355 of the DEIS and in the Groundwater Supply Monitoring and Mitigation Plan, pre-construction surveys would be conducted to confirm the presence and locations of all groundwater supplies for landowners within and adjacent to the proposed pipeline right-of-way. Pacific Connector has stated that it would further verify exact locations of springs and seeps during easement negotiation with landowners.

As discussed in section 4.4.2.1, in its Groundwater Supply Monitoring and Mitigation Plan, Pacific Connector states that should it be determined after construction that there has been an effect to groundwater supply (either yield or quality), Pacific Connector would provide a temporary supply of water, and if determined necessary, would replace the affected supply with a permanent water supply. Mitigation measures would be coordinated with the individual landowner to meet the landowner's specific needs.

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1 The cost of getting the timber out in the future  
2 I think I already addressed. Safety from explosions I'm  
3 quite sure by all of these people that were talking here  
4 that this is going to be an A-1 type pipeline, but things do  
5 happen. It's going to be possible loss of life, our  
6 property, the forest fires again are another issue.  
7 Oregon's nothing but trees almost. Well, no, I shouldn't  
8 say that, part of us are.

9 What assurance do we have that they're not going  
10 to put another line right next to that same line, or they  
11 may sell that line and then we have to go and renegotiate or  
12 will we be able to negotiate for a new contract?

PM6-48

13 Another thing that bothers me a lot about this  
14 is the eminent domain because it's whatever those people  
15 decide who the powers that be of what we get. It's not  
16 what's going to be on down the future. It's a one-time  
17 thing right now.

18 The other thing is, is we have on this property  
19 three major electrical lines that are going through. I do  
20 not understand how the pipeline can go under these major  
21 power lines. One of them is the California line, one is  
22 PP&L, and another smaller one. How is that going to be  
23 addressed?

PM6-49

24 MR. FRIEDMAN: Ms. Baker, we'd like you to wrap  
25 up now.

## PM6

## Continued, page 53 of 75

PM6-48

Pipeline safety is addressed in section 4.13 of the EIS. There are no assurances that Pacific Connector would not sell the pipeline to another company in the future, or that another line may not be proposed for an adjacent location outside of existing right-of-way.

PM6-49

Pacific Connector would work with other utilities when crossing those foreign lines, as explained in section 2.4.2.2 of the EIS.

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PM6

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1 MS. BAKER: I'm done.  
2 MR. FRIEDMAN: Thank you for your comments.  
3 John Mohlis.  
4 MR. MOHLIS: Good evening. John Mohlis, John  
5 with a "J" and M-o-h-l-i-s, is the last name.  
6 I represent the Oregon State Building and  
7 Construction Trades Council, which is an umbrella  
8 organization for about 25,000 union construction workers  
9 throughout the state.  
10 First, I would like to thank all of you for  
11 coming to Oregon and taking your time and letting everybody  
12 air their concerns to you.  
13 I would like to go on record, and our council  
14 would like to go on record in support of the findings of the  
15 Draft EIS. I think I've -- that in the review that I've  
16 taken of it, it seems to be that in general there are going  
17 to be some environmental impacts, but they can be mitigated.  
18 The pipeline and the project can be built safely. And I  
19 want to go on record stating that I believe that it truly  
20 can.  
21 It's been designed to and it would be built to  
22 the highest safety standards, the highest environmental  
23 standards. It'll be built by the most highly qualified and  
24 most trained professional workforce available in the world.  
25 I think some people think projects like these

PM6-50

PM6-50

Comment noted.

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1 have to be either the jobs or the environment, and that's  
2 not true. I think this is really a case here where we have  
3 the opportunity to permit and build and maintain and operate  
4 a project that's built to the highest environmental and  
5 safety standards, and provide jobs for members of the  
6 community at the same time.

7 This project's been in the permit process for 11  
8 years. I believe it was approved in 2009 as an import  
9 facility. Now, it's been hopefully reapproved as an export  
10 facility. I think 11 years is sufficient time. I think the  
11 90-day comment period is sufficient time. And I hope that  
12 if the needs are addressed in those 90 days, and if Jordan  
13 Cove makes the mark and the Pacific Connector Pipeline makes  
14 the mark, and I think they will, I hope that the project is  
15 allowed to proceed. Thank you.

16 MR. FRIEDMAN: Thank you for your comments.  
17 Next is Charles Massie, then Alan Eberlein, then Neal  
18 Eberlein, and then Dan Keppen.

19 MR. MASSIE: Hi. Charles Massie, M-a-s-s-i-e,  
20 and I'm the executive director of the Klamath County Chamber  
21 of Commerce, and I represent about 440 businesses and  
22 organizations in our community here.

23 And I'd like to say, one, thank you for getting  
24 to be part of this process. The businesses that I represent  
25 we have done some internal surveying of our membership and

PM6-51

PM6-52

**PM6**

**Continued, page 55 of 75**

PM6-51 The FERC decided not to extend the 90-day period for comments  
on the DEIS past February 13, 2015.

PM6-52 Comment noted.



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PM6

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1 they have said that as an organization we need to be  
2 supportive of the project, that we need to advocate for it,  
3 but also advocate to make sure that our community is being  
4 watched out for, and that we are following a process that is  
5 rigorous. And I must admit most of our folks feel the  
6 process is quite rigorous. Some would even say onerous.  
7 And I would think that, as we go through this process and a  
8 regulatory process that has been built for many years, it is  
9 an important part of it. And we are very support of that.  
10 But we also feel like at some point you have to begin making  
11 decisions around the process.

12 So, our organization because we represent small  
13 businesses, they tend to be pretty pragmatic people. We  
14 have a group of folks who have dealt with a couple of  
15 pipelines, a couple of large power line projects, who've  
16 felt they've had significant positive impact on the  
17 community, that their concerns have been well addressed,  
18 that we will continue to advocate for that.

19 And we also feel that, as a community, the  
20 economy is part of the environmental ecosystem as well and  
21 that's an important part of our community is how do we  
22 continue to represent and build small businesses and how do  
23 we address their concerns. And so we look forward to  
24 continuing in the process, but our organization is very  
25 supportive of it moving forward. And we hop that through

PM6-52  
Cont.

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1 your rigorous process that permitting can be moved forward  
2 and this project can begin. Thank you.

3 MR. FRIEDMAN: Thank you for your comment. Alan  
4 Eberlein.

5 MR. EBERLEIN: I'm Allan Eberlein, A-l-a-n,  
6 E-b-e-r-l-e-i-n.

7 I'm a local guy. I'm native of Klamath Falls.  
8 I've been in business here for over 50 years. I've seen the  
9 economy through a number of wild cycles, and I've been  
10 involved in a number of efforts to try to stabilize those  
11 cycles.

12 Right now our economy is sick. We've got some  
13 of the worse statistics, not only in Oregon, but in the  
14 United States. If we're going to be successful long-term in  
15 attracting business to locate here to bring us the jobs we  
16 desperately need we have to adequately fund our public  
17 safety and our schools.

18 There's only two ways to do that. We either  
19 raise our property taxes on ourselves, which is almost  
20 impossible to do in the current economy, or we find somebody  
21 to bring some revenue into our coffers.

22 Now, several years ago I watched as they built  
23 the main East/West natural gas line, which I believe is the  
24 same size as this one, which comes across, feeds the Cogent  
25 plant and goes on over to Rogue Valley. They built it right

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1 behind my back fence. When they got done with that, you'd  
2 never know it was there, except for the little yellow  
3 markers they left behind. It just sits there year after  
4 year safely transporting natural gas and paying property  
5 taxes. Three million dollars a year in property taxes  
6 would do a lot to stabilize our economy. I'm a hundred  
7 percent in favor of this project.

8 MR. FRIEDMAN: Thank you for your comments.  
9 Neal Eberlein.

10 MR. EBERLEIN: Neal Eberlein, N-e-a-l,  
11 E-b-e-r-l-e-i-n.

12 Southern Oregon has been trying for decades to  
13 recover from the demise of the timber industry, watching our  
14 young people move away, struggling to get by on government  
15 handouts, and we're still lagging way behind the rest of the  
16 country in recovering from the recent recession.

17 I see this project as an economic lifeline for  
18 our area, not only for the construction jobs and the tax  
19 revenue that it'll generate, but also for the access to the  
20 pipeline. I think access to the pipeline gives us the  
21 opportunity to recruit some major new industry here to  
22 replace some of these jobs that have been loss.

23 I'm very much concerned with the environment.  
24 I've lived here all my life, and a lot of the reason I've  
25 stayed here is because of this environment. If I wasn't

PM6-53

PM6-54

**PM6 Continued, page 58 of 75**

PM6-53 Comment noted.

PM6-54 Comment noted.

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1 convinced that this project was going to be addressed in a  
2 proper manner, I couldn't be for it; but I am totally for  
3 the project. Thank you. PM6-55

4 MR. FRIEDMAN: Thank you for your comment. Dan  
5 and then Paul Fouch, and then something Reddington, and then  
6 Stan Gilbert.

7 MR. KEPPEL: My name is Dan Keppen, D-a-n,  
8 K-e-p-p-e-n.

9 I'm here to talk about the human environment.  
10 I'm here as an individual, but also I'm the incoming  
11 president of the Klamath County Chamber of Commerce.

12 As an individual, I feel very passionate about  
13 this project because of my agri background; I worked for  
14 organizations that represent farmers and ranchers in 17  
15 western states. My father was a lifelong timber management  
16 and Forest Service. Both of those economies or both of  
17 those sectors of our economy are much different than they  
18 used to be, and we're hurting, as other people have said  
19 here. And I think that this particular project not only in  
20 the short-term, but in the long-term could give us a big  
21 boost. PM6-58

22 We have some great things -- we're turning the  
23 corner in this county right now. We got a potential  
24 historic water settlement that could help deal with some of  
25 our agri issues. We've got a huge infusion of rural-based

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**PM6 Continued, page 59 of 75**

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PM6-55 Comment noted.

PM6-56 Comment noted.

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PM6

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1 medicine and medical education coming to Klamath Falls at  
2 OHSU and OIT, and this project. To me, at the Chamber of  
3 Commerce, I see these three projects as being some of our  
4 key initiatives in the coming year.

5           The short-term benefits to our economy are  
6 obvious with this. There's going to be hundreds, perhaps  
7 thousands of temporary construction jobs that are going to  
8 help our economy. There's a ripple effect there that will  
9 help our community. Three million dollars to our local tax  
10 base is huge because right now our schools are hurting.  
11 We're in danger of losing our 4-H and our OSU extension, and  
12 we have some major public safety issues right now. This  
13 infusion to our tax base will really help us out, but I'm  
14 really more excited about the long-term impacts of this  
15 project.

PM6-57

16           We at the Chamber are not going to be satisfied  
17 for just being sort of a colony to the energy sector on this  
18 project. We want to take advantage of this. This liquefied  
19 natural gas line goes right through our Klamath irrigation  
20 project. It skirts the City of Klamath Falls and very close  
21 to some industrial areas. We're looking at opportunities.  
22 We want to see "T" put in so we can tap into this line in  
23 the future.

24           One of the projects that's being looked at right  
25 now is compressor station that would convert this liquefied

PM6-57

Comment noted.

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1 natural gas to compress natural gas that could be  
2 distributed to our agri community. And preliminary  
3 estimates right now suggested that the cost of that could be  
4 30 percent cheaper than diesel, and it's cleaner than  
5 diesel.

6 Our guys right now in the irrigation project pay  
7 some of the highest power costs in the western United States  
8 for their irrigation and drainage pumping. This could  
9 provide possibly an alternative to them.

10 Bottom line, I guess, is we're hurting. This,  
11 coupled with these other initiatives I talked about, makes  
12 us competitive to other parts of the state. And again, I  
13 just think there's just huge benefits here, and I hope that  
14 you will consider, you know, the human environmental impacts  
15 as you wrap up this DEIS. It has to be considered. Thanks.

16 MR. FRIEDMAN: Thank you for comment. Paul  
17 Fouch.

18 MR. FOUCH: Hi. I'm Paul Fouch, F-o-u-c-h, and  
19 I'm president of Save our Rural Oregon, and I represent  
20 about a thousand people along the line on a 7-mile stretch  
21 between Collins Products and Keno. And I'm a professional  
22 engineer retired, and I served an apprenticeship as a  
23 machinist and I know accidents can happen, and I have a son  
24 who's a boilermaker too, one of my seven sons, so I have  
25 known what can happen on these projects throughout the

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1 country.

2           Anyway, we want special consideration on the  
3 7-mile stretch. There's a thousand residents that live a  
4 half mile from the river, the Klamath River, and the line  
5 should go right down the center of the parcel and not too  
6 close to the river. That would provide the best or the  
7 least impacts to the wildlife and the river, and to the  
8 residents.

9           We know the line's going to go through, and  
10 that's a good location for it; but what I see on the map --  
11 and I don't know if I have the latest map -- I see all kinds  
12 of kinks in the map. It's not a straight, smooth flow and  
13 it goes within a hundred feet of the river in some of the  
14 sections, and then within 200 feet of some of my residents'  
15 houses. So, I think what I'd like to see in this section is  
16 a line above the ground. And I know most lines are  
17 underground, but I've studied this area for many years, and  
18 it's susceptible to earthquakes. And you could build it  
19 above the ground for a certain length, maybe seven or eight  
20 miles and isolate it if the earthquakes come. Also, there's  
21 a lot of wetlands and seasonal streams and flooding and so  
22 on.

23           And then another thing we're concerned with, of  
24 course, is early warning system in case a disaster happens.  
25 And I haven't seen anything in your documents about that.

PM6-58

PM6-59

**PM6**

**Continued, page 62 of 75**

PM6-58

In this area, the Pacific Connector pipeline was routed adjacent to existing rights-of-way including a road and existing pipeline. One of the "kinks" you identify in the route would avoid a federally listed plant species. DOT regulations would prevent the pipeline from being laid on the surface.

PM6-59

The proponent is required to prepare an Emergency Response Plan. A draft of this document is included with the POD.

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1 Thank you.  
2 MR. FRIEDMAN: Thank you for your comment. Is  
3 that a BAA tee shirt? Paul, is that a BAA tee shirt?  
4 MR. FOUCH: Excuse me?  
5 MR. FRIEDMAN: Is that a BAA tee shirt, Boston  
6 Athletic Association?  
7 MR. FOUCH: Yes.  
8 MR. FRIEDMAN: Yes, I have a couple of those.  
9 MR. FOUCH: What was that?  
10 MR. FRIEDMAN: I said I have a couple of those.  
11 MR. FOUCH: Oh, okay.  
12 MR. FRIEDMAN: It means that that man ran the  
13 Boston Marathon, which is the most exclusive marathon in the  
14 world. In order to run Boston, you must qualify, and  
15 believe me, it's not easy.  
16 All right, next we have someone whose last name  
17 is Reddington, and I'm unable to read your first name.  
18 MS. REDDINGTON: My name is Beulah Reddington,  
19 B-e-u-l-a-h, R-e-d-d-i-n-g-t-o-n, and I am a landowner, but  
20 that's not my gripe tonight.  
21 I received a phone call late June, asking  
22 permission to survey my property. I answered no. No one  
23 from the proposed project was welcomed until it was all  
24 approved.  
25 On July 1, about 3:00 p.m., I answered the door.

PM6-60

PM6

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PM6-60

No one should enter your property without your permission.



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PM6

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1 Two young people met me there with a gadget in their -- in  
2 the woman's hand, also wearing hard hats and orange vests,  
3 asking to -- permission to survey my property. My reply was  
4 I already said no. The conversation continued. She then  
5 entered into her gadget that I was hostile.

6 She then entered after they left someone had  
7 been -- was working in my yard, and came to the house and  
8 asked "Who is this?" He said they came and asked me for  
9 permission to survey and he informed them that he was not  
10 the owner. He then told me that they had already driven on  
11 my property before they talked to me.

12 How are we to trust the pipeline when "no" means  
13 nothing this early in the process?

14 MR. FRIEDMAN: Thank you for your comment. Stan  
15 Gilbert, the Ted Gleichman, then Perry Chocktoot, and then  
16 Jim Bellet.

17 MR. GILBERT: Good evening. My name is Stan  
18 Gilbert, G-i-l-b-e-r-t, and I am the immediate past  
19 president of the Chamber of Commerce. I also happen to be  
20 the community mental health director, and I operate a mental  
21 health facility that's the community mental health program  
22 in Klamath.

23 I moved here in an era where there were six or  
24 seven operating mills, lots of family wage jobs, and a  
25 relatively prosperous small, rural-based community was here.

PM6-60  
Cont.

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PM6

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1 We've lost those timber jobs due to the environmental impact  
2 laws and the 2008 recession has hit us. And in that time, I  
3 have seen child abuse rates increase to the point where  
4 twice the state average higher than any other area in the  
5 United States of America.

6 I have seen domestic violence rates increase to  
7 about two and a half times the state average. I've seen  
8 suicide rates increase to the point where we're about twice  
9 the state average. And I could go on like this, and it's  
10 largely all income, economic related stress. Child abuse  
11 and family poverty go hand-in-hand. Child poverty and child  
12 abuse rates go hand-in-hand.

13 And our demographics of our community have  
14 changes since 2008 because of the recession. Our high  
15 school and college graduates must leave the community in  
16 order to find employment. Our greatest export right now is  
17 our talented and gifted youth. These folks don't come back  
18 because we don't have jobs to support them. Who stays? The  
19 demographics of our community have changed dramatically over  
20 the last seven years.

21 And I really worry that we're at a point because  
22 a community -- and we're not the only community like this in  
23 Oregon -- there's several others facing the same challenges.  
24 But our community is really at a crossroads where we could  
25 dry up and blow away in the next 20 years if we don't find a

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1 way to create economic -- positive economic impact in our  
2 community.

3 This is certainly one project that can do that,  
4 and I certainly support the draft impact study. Certainly,  
5 this will have some environmental impact, but I believe that  
6 the mitigation plans can address those adequately. And I  
7 urge that a certificate be issued to move forward on this.  
8 Thank you.

9 MR. FRIEDMAN: Thank you for your comment. Next  
10 is Ted Gleichman.

11 MR. GLEICHMAN: No podium tonight. I'm going to  
12 do this the hard way. This machine here was made in China,  
13 and that's just wrong.

14 I'm Ted Gleichman, G-l-e-i-c-h-m-a-n,  
15 representing Sierra Club. In Coos Bay, I detailed that we  
16 strongly support the DEIS good jobs goal, but we believe  
17 that those good union jobs must be in earthquake and Tsunami  
18 proof infrastructure and renewable energy efficiency and  
19 conservation.

20 In Roseburg and Canyonville, I noted that FERC  
21 is violating its standards on cumulative impacts, failing to  
22 reflect the project's natural global atmospheric boundaries,  
23 refusing to recognize induced fracking, failing to examine  
24 the project's investors and financial protections, and  
25 refusing a programmatic EIS on all USLGN. These FERC

PM6-61

PM6-62

## PM6

## Continued, page 66 of 75

PM6-61

Comment noted.

PM6-62

Section 4.14 of the EIS addresses cumulative impacts. See section 1.4.4 of the DEIS for a discussion that explains why the FERC does not conduct programmatic environmental studies. Also see the responses to IND1-1 and IND6-1.

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1 choices prevent fair consideration of the project.  
2 In Medford, I rebuked some of my colleagues by  
3 emphasizing that all of us must support the work that  
4 creates a healthy society, safer from earthquakes and  
5 converting to clean energy. I emphasized that the fact that  
6 there are 7 percent fewer jobs in southern Oregon now than  
7 there were when the great recession started in 2008 is a  
8 genuine crisis. People are hurting.  
9 Since last night, I have reached out a senior  
10 staffer at the Oregon legislature concerning action options.  
11 Talk is cheap, but personally, and with my crew, I'm going  
12 to do the best I can to move forward quickly. I also noted  
13 that the claims that natural gas is a climate solution are  
14 not scientifically correct. This project would damage the  
15 climate. And I said FERC needs to face the new economic and  
16 climate realities by recognizing that new fossil fuels  
17 infrastructure can no longer be accepted as business as  
18 usual.  
19 Renewables efficiency and conservation can meet  
20 our needs, requiring skilled work. Every individual willing  
21 and able to work deserves a good job. We work on that  
22 through the Blue/Green Alliance. But jobs that destroy  
23 climate stability are not good, healthy jobs. Every one of  
24 us needs to look clearly at the multiple crises we're  
25 already in and what's coming down the pike.

PM6-62  
Cont.

PM6-63

## PM6

## Continued, page 67 of 75

PM6-63

The wording that it is "a climate solution" is not found in the EIS. It is correct to say it emits less GHG per unit of heat than coal, oil, or any other fossil fuels.

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1 The DEIS shows the fallacy of FERC's business as  
2 usual approach in Section 3, Alternatives. "FERC's  
3 evaluation criteria for alternatives include whether they  
4 area technically and economically feasible, reasonable, and  
5 practical, offer a significant environmental advantage over  
6 the proposed action, and have the ability to meet the  
7 objectives of the project."

8 This third FERC choice creates a false process.  
9 This statement in 3.1.4 is absurd. "Because the project's  
10 purpose is to prepare natural gas for export to foreign and  
11 domestic markets the development or use of renewable energy  
12 technology would not be a reasonable alternative to the  
13 proposed action."

14 Actually, the project's purpose is to make money  
15 for the owner, but FERC's purpose be to protect healthy  
16 energy options for the American people. The Commissioners  
17 must change their procedures wherever they have the legal  
18 ability and authority to do so t recognize these new  
19 realties, and they must advocate for changes where their  
20 legal constraints prevent them from taking immediate action  
21 independently and where these constraints have become  
22 obsolete.

23 This is not the climate we grew up with. Things  
24 are moving too fast to continue this business as usual  
25 approach, and that applies to all of us. Thank you for your

PM6-64

PM6-65

## PM6

## Continued, page 68 of 75

PM6-64 The Commission's purpose is to regulate the interstate transportation of natural gas in accordance with the NGA.

PM6-65 See response to PM6-64.

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PM6

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1 time.

2 MR. FRIEDMAN: Thank you for your comments.

3 Next speaker is Perry Chocktoot.

4 MR. CHOCKTOOT: Hello Paul. Okay, my name is

5 Perry Chocktoot, P-e-r-r-y, C-h-o-c-k-t-o-o-t. I'm the

6 director for the Cultural and Heritage Department for

7 Klamath Tribes.

8 I'm here tonight -- first off, I'd like to say

9 I'm in full support of hard work. I'm in full support of

10 the labor unions. I, myself, was a member of the

11 Maintenance Woodworkers Union at one time, but this project

12 has some hurdles.

13 The biggest hurdle I see I learned from another

14 project called the Ruby Pipeline. The Ruby Pipeline was put

15 in. Project proponent literally walked away from that

16 pipeline. To this day, it is looted for artifacts daily

17 through the entire length. It is not policed. There was a

18 confusion in the agreement between the BLM and Ruby on who

19 was going to do it. You ask one entity who's responsible.

20 Oh, they don't know. You ask the other entity. They don't

21 know. And then what happened, Ruby Pipeline was sold to

22 Kinder Morgan.

23 So, it's dig in, put it in, go away, sell it.

24 It's a common occurrence that usually happens once every

25 five years once the pipeline's been put in. And they go

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1 back between very, very rich Republican friends.  
2 This project not only has that problem to deal  
3 with, but between the base of the Cascade Range at the  
4 bottom of Clover Creek to Merlin, you're going to dig up  
5 probably hundreds of bodies. Our village sites are in  
6 there. They've been destroyed, the evidence of them, by  
7 farming and ranching for 175 years. So, you're not going to  
8 be able to use a normal anthropological process, which is a  
9 phase 1 archeological survey to find this stuff 'cause it's  
10 gone. It's been picked up. Now, when you start digging,  
11 that's when you're going to find the evidence of our people.  
12 I used to work for Weyerhaeuser, and this  
13 pipeline is going across the flat just south of  
14 Weyerhaeuser. Regularly, we found bodies in the ditches  
15 south of Weyerhaeuser. There's a place down there where the  
16 old Applegate Trail had crossed. There's going to be a lot  
17 of impacts. There's a lot of hurdles, a very lot of  
18 hurdles. And for you people that are leading Klamath  
19 County, you should be getting money in perpetuity 'cause  
20 this is going to leave a fingerprint that you'll see from  
21 space, not for one or two or three or four or five years,  
22 forever. You can Google map the Ruby right now, you'll see  
23 it from space forever.  
24 Somebody said ATVs are going to be going up and  
25 down this thing. I don't know how you're going to control

PM6-66

PM6-67

**PM6**

**Continued, page 70 of 75**

PM6-66

Between the pipeline crossing of Clover Creek Road and the community of Malin, Pacific Connector completed an on-the-ground cultural resources inventory, with two small gaps, and identified three prehistoric archaeological sites. One of those sites would be avoided by the HDD under the Klamath River, while the other two are unevaluated and require additional archaeological investigation. In addition, Pacific Connector has filed a plan to handle the unanticipated discovery of cultural or human remains during construction. Section 4.11 summarizes the finding of the cultural resources surveys and consultations with Indian tribes about the Project. We have recommended that Pacific Connector file documentation of communications with the Klamath Tribes, including any agreements reached. Such an agreement could provide for monitoring of trenching by tribal members.

PM6-67

Section 4.8.1.2 and 4.10.2.5 of the EIS addresses OHV controls.

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1 it, but if you don't put this in black and white right now  
2 it's going to be a mess out there. I don't know how you're  
3 going to get under the Rogue River and the Klamath River  
4 without destroying these fish. You know, I realize it's a  
5 boring process. You're going to have to go deep and  
6 accidents do happen. You heard it tonight from some  
7 professional people. Accidents happen.

8 I'm here also tonight to speak for those fish  
9 because they don't have a voice in this. I've heard  
10 landowners tonight and a lot of hard workers, but those fish  
11 can't stop this. So, you need to use some good aquatic  
12 science. Don't hurt these fish. They've been hurt enough.  
13 All these dams on the Klamath River destroyed their life.  
14 Rogue River that's unheard of. Do not destroy  
15 these salmon on the Rogue River. So, I implore you use  
16 good science.

17 MR. FRIEDMAN: You want to wrap up now.

18 MR. CHOCKTOOT: Okay, I'll wrap it up, Paul.  
19 I'll call you and talk to you about it later.

20 MR. FRIEDMAN: And you can send me letters.

21 MR. CHOCKTOOT: Okay. But I implore you use  
22 good science. Get something in writing because the Ruby  
23 Pipeline was a fiasco.

24 MR. FRIEDMAN: Thank you for your comments.

25 Perry knows that when I say send me letters that they

PM6-67  
Cont.

PM6-68

## PM6

## Continued, page 71 of 75

### PM6-68

Project-related impacts on fish are addressed in section 4.6 of the EIS. As discussed in section 4.4, Pacific Connector would cross the Rogue River with an HDD to avoid affecting salmon and other fish in the river.



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PM6

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1 actually go to the Secretary of the Commission.

2 MR. CHOCKTOOT: Yes.

3 MR. FRIEDMAN: Jim Bellet.

4 MR. BELLET: Jim Bellet, that's J-i-m,

5 B-e-l-l-e-t.

6 Thanks for letting me comment about this  
7 project. I'm a Klamath County commissioner. And some of  
8 the comments I might have might have to do with the county.  
9 Some of them might have to do with personal opinion.

10 As you know, you've heard everybody talk about a  
11 lot of stuff besides the environment. You wanted to hear  
12 endangered species, water quality. I think that's what this  
13 conversation started out with, but you heard an awful lot of  
14 other things. And the reason that I believe that you've  
15 heard -- instead of talking about the environment I think  
16 the reason that you haven't heard t hat is because I don't  
17 think that the people in Klamath County think that this  
18 pipeline is going to affect endangered species or water  
19 quality.

20 Now you have Perry Chocktoot that said there's a  
21 lot of cultural issues, and I have to agree with him. I  
22 think in Klamath County I don't think the endangered species  
23 care if that pipeline is in the ground, and I don't think  
24 that the water quality is going to be damaged by the  
25 pipeline in the ground.

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PM6

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1           We have a lot of pipes in our ground already,  
2   and I don't think that -- I've never heard of it endangering  
3   a species. The only thing that I think that is actually  
4   endangered in Klamath Falls or Klamath County is the human  
5   species. I think that we need to consider the human species  
6   here. Now, that's what the people talked about is the human  
7   species, not the ones running around out in the wild.

8           The long-term danger I don't think there is any.  
9   We've had pipelines in the ground for decades, and I just  
10   don't think that that's going to be an issue. Perry talked  
11   about the problems with Klamath River, getting underneath  
12   the river with a pipeline. You rely on the expert engineers  
13   on how to do that. They drilled one just a few years ago,  
14   smaller pipe, but it was successful. I think that you have  
15   to consider the companies that are doing the project. I  
16   think that they would have the ability to do that.

17          Perry's worried about the fish. I understand  
18   that, but I think that that can be taken care of. There is  
19   a problem out there with some people that they did find that  
20   was buried out there, but I'm sure that with the Tribe  
21   working with the contractor I'm sure that that will be okay.

22          Active farmland, there's a pipe that go right  
23   down an awful lot of active farmland, and you would not know  
24   that there's any pipe there unless you see the signs. I can  
25   understand people not wanting eminent domain. I don't like

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PM6

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1 that either. I hope the contractor can mitigate that and  
2 move the pipe off those people's land if they do not want  
3 it, but there's an awful lot of farmland that has the  
4 pipeline on it.

5 The other thing is we talk about going along the  
6 lake or along the river. The Ruby Pipeline goes right along  
7 Goose Lake, right to the north of it and I've flown over  
8 that area and it does not seem to impact anything. You  
9 can't even tell that it's even there, but up on the  
10 hillsides, of course, that stays for a long period of time.

11 But I just wanted to say that I support the  
12 project. And as you know, Klamath County could sure use  
13 the taxes. Thank you.

PM6-69

14 MR. FRIEDMAN: Thank you for your comments.  
15 You're a Klamath County commissioner.

16 MR. BELLET: That is correct.

17 MR. FRIEDMAN: You're the first commissioner in  
18 any county to speak publicly at these meetings, and I  
19 greatly appreciate you doing so.

20 Jim is also our last speaker tonight. So, with  
21 the last speaker that actually concludes our meeting.

22 On behalf of the Federal Energy Regulatory  
23 Commission and our federal cooperating agency partners, I  
24 would like to thank you for coming here tonight and  
25 providing us with your comments on our DEIS for the Jordan

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**PM6**

**Continued, page 75 of 75**

1 Cove Pacific Connector Project.

2 Let the record show that this meeting ended at

3 7:55 p.m. Thank you.

4 (Whereupon, the meeting was concluded at 7:55

5 p.m.)

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JOHN A. KITZHABER, MD  
GOVERNOR



February 12, 2015

Kimberly D. Bose, Secretary  
Federal Energy Regulatory Commission  
888 First Street NE, Room 1A  
Washington, DC 20426

RE: Comments of the State of Oregon  
Draft Environmental Impact Statement  
Jordan Cove Energy Project Docket No. CP13-483-000 and  
Pacific Connector Gas Pipeline Docket No. CP13-492-000

Dear Secretary Bose:

Oregon has a track record of successfully pursuing policies, programs, and practices to protect the environment, stabilize energy prices, and create new economic opportunities, particularly for communities that are economically disadvantaged.

Liquefied natural gas (LNG) presents an opportunity to reduce greenhouse gas emissions by displacing dirtier fuels, including coal and oil. However, this strategy only works if the natural gas is produced and transported in an environmentally-responsible manner, one that minimizes emissions of methane and other greenhouse gasses lost from production wells and pipelines.

This project has great potential to support the economy of the central and southern Oregon coast, creating jobs and a strong energy infrastructure in one of the areas of Oregon that is continuing to suffer from both the recession and long-term structural changes in the economy. According to an EcoNorthwest Study of the project, construction activities would employ on average 1,768 workers receiving \$182.6 million in wages over a three-year construction cycle. Over the long term it's estimated that the facility will create 150 direct jobs and support over 400 more.

In addition to the local jobs created over the short and long term the project, if completed, will bring significant revenue to the local community through a Community Service Fee agreement. Under this agreement, approximately \$12 million will be paid annually to local public and non-profit organizations during the construction phase of the project and over \$21 million will be paid out annually when the project is operational. Half of the annual post-construction payment will go towards education funding in the region.

These economic benefits must be balanced with the environmental impacts of the facility and its associated pipeline. Locating an LNG export terminal in Oregon must occur only if it is clear that the project meets all applicable environmental standards, and it is clear that the impacts of the project have been adequately evaluated. Several Oregon agencies are engaged in review of regulatory approvals for the proposed Jordan Cove Liquefied Natural Gas (LNG) export terminal, the associated Pacific Connector pipeline, and the proposed South Dunes electrical generation facility.

Oregon has regulatory jurisdiction over the proposed LNG export terminal and the associated Pacific Connector pipeline in a number of respects, including water quality, air quality, coastal zone

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SA1

## STATE AGENCIES

### SA1 State of Oregon, John A. Kitzhaber, MD, Governor

SA1-1 Comment noted.

SA1-2 Economic benefits associated with the terminal are discussed in section 4.9.1.4, tax revenues in 4.9.1.5. Economic benefits associated with the pipeline are discussed in section 4.9.2.4, tax revenues in 4.9.2.5. The environmental effects are evaluated in applicable sections of Chapter 4.

SA1-1

SA1-2

SA1 Continued, page 2 of 241

consistency, and the use of state lands. Many tentative conclusions in the Draft Environmental Impact Statement (DEIS) are premised on environmental analyses that have yet to be completed as part of these state permitting processes. The final EIS, as the foundation for the licensing decision by FERC, must address these issues before a final FERC decision is made. Additionally, any mitigation requirements that will be relied on by FERC to determine that the facility meets licensing criteria must be subject to meaningful review before adoption of the final EIS.

SA1-3

Because pipeline companies who obtain a FERC license have the power of eminent domain, the state requests that FERC be particularly careful that it does not authorize the project prematurely. That means assuring that eminent domain not be authorized until all regulatory approvals have been secured, as well as fair compensation and full mitigation of impacts to property owners. It also requires being responsive to citizens' concerns and public requests for information.

SA1-4

We highlight the following concerns regarding the DEIS, that are addressed in more detail in the attached comments from Oregon's state agencies.

**1. Conditional approval assumes that the project will receive all required Clean Water Act (CWA), Clean Air Act (CAA) and Coastal Zone Management Act (CZMA) approvals.**

If the Commission were to complete its NEPA process before issuance of CWA, CAA and CZMA authorizations, it may foreclose the consideration of necessary modifications and/or reasonable alternatives to the proposed action. Two examples help illustrate this concern. The Oregon Department of Environmental Quality's (ODEQ's) review under CWA section 401 could lead to a determination that the proposed project will meet water quality standards only if there are changes to the proposed pipeline or export terminal (either in terms of routing or siting, or other physical changes in the facilities). Similarly, the Department of Land Conservation and Development's (DLCD's) coastal zone consistency review under the CZMA could result in required changes to the location or nature of the proposed facilities in order to ensure consistency with enforceable policies of the state's coastal program. I urge the Commission to coordinate the timing of its decision-making with state agencies implementing federal laws, so that it avoids creating conflicting requirements and public confusion.

SA1-5

**2. Impacts to fish, wildlife and their habitats.**

Due to the scale and scope of the proposed project, the state requests that FERC work with Oregon and others to establish a Technical Advisory Group to oversee an adaptive management program for these facilities in the event that they are approved and move forward through construction and operation. That group should include professionals from appropriate agencies, tribes, and other pertinent organizations to assist project managers with development and implementation of adaptive management. This group would provide interactive and specific guidance and feedback, evaluation of ecological impacts in real time, oversight of monitoring, and post-construction assessment of:

- Direct and indirect construction impacts of the project;
- Post-construction legacy impacts to fish and wildlife production on the site;
- Precise methods to determine and measure the magnitude of both project impacts and the effectiveness of restoration and other mitigation actions; and
- Assist with implementation of mitigation strategies, and assist with identifying monitoring needed to ensure effectiveness of mitigation.

Oregon has participated in similar joint state/federal teams for other large-scale projects. The purpose of this team would be to initiate and maintain effective ongoing discussion between Jordan Cove Energy

SA1-6

SA1-3

The FEIS would be used by the Commission along with other analyses in making their decision. Typically, if the Commission does authorize the Project, that authorization would include conditions that must be met prior to construction. This would include meeting State permitting requirements. Jordan Cove filed its Wildlife Habitat Mitigation Plan (in accordance with OAR 635-415-0000 through 0025) in May 2014. Also, see the requirement on page 4-516 of the DEIS: Pacific Connector should file a Habitat Mitigation Plan that was formulated in consultation with ODFW prior to the end of the comment period.

SA1-4

Comment noted.

SA1-5

Typically, if the Commission does authorize the Project, that authorization would include conditions that must be met prior to construction. This would include meeting permitting requirements under the CWA, CAA, and CZMA.

SA1-6

FERC uses a third party construction monitoring contractor rather than a local advisory group to monitor construction, see section 2.5.1.

**SA1 Continued, page 3 of 241**

Project/South Dunes Power Plant/Pacific Connector Gas Pipeline and the federal, tribal, state, and local agencies involved in overseeing implementation of project-related requirements and conditions to avoid, minimize and mitigate for any negative impacts of the project.

**3. Financial Assurance to mitigate environmental damages in the event of a vessel accident.**

The state urges the Commission to ensure additional resources are available to compensate for any environmental damage from a potential vessel accident. Specifically, we request that FERC require Jordan Cove to enter an agreement with each LNG vessel owner intending to berth at the terminal to waive their potential right to limit their liability under federal law. Further the vessel owners should provide Jordan Cove evidence that the vessel's protection and indemnity association has agreed to cover the vessel as a member of the association against the liabilities pertaining to such an accident. This is a common method in the industry of helping to ensure sufficient funds are available to respond to (and correct) environmental damages, and we urge the Commission to require this reasonable mitigation measure.

SA1-7

**4. Impacts to the Southwest Oregon Regional Airport.**

The proposed terminal and LNG storage tanks appear to be located within, or very close to, a horizontal distance of one mile from the ends of the Southwest Oregon Regional Airport runways. The Commission needs to update its environmental review to address the safety concerns associated with interaction between the current and reasonably foreseeable future operations of the airport and the operations of the export facility. If there are anticipated adverse impacts on the airport, the proponents of the facility must demonstrate that the terminal and operations of the facility can comply with Federal Aviation Administration requirements.

SA1-8

The State urges the Commission to carefully consider each of Oregon's comments and recommendations and to modify its NEPA review documents to, where appropriate, incorporate agency recommendations. The State also requests that its recommendations for conditions be included as required conditions in the Commission's authorizations.

We look forward to your careful consideration of Oregon's comments on this significant proposed project.

Richard Whitman, Natural Resources Policy Director  
Office of Oregon Governor John A. Kitzhaber, M.D.

Enclosure: consolidated Oregon state agency comments

- cc. Annette Liebs, Oregon Regional Solutions  
Dick Pederson, Oregon Department of Environmental Quality  
Jim Ruc, Oregon Department of Land Conservation and Development  
Curt Melcher, Oregon Department of Fish and Wildlife  
Vicki McConnell, Oregon Department of Geology and Mineral Industries  
Mary Abrams, Oregon Department of State Lands  
Mike Kaplan, Oregon Department of Energy  
Oregon State Representative Casky McKeown  
Oregon State Senator Annie Roblin  
Congressman Peter DeFazio  
Senator Ron Wyden  
Senator Jeff Merkley

SA1-7 Marine traffic is regulated by the Coast Guard and the Port, not by FERC.

SA1-8 Our analysis of potential Project-related impacts on the Southwest Oregon Regional Airport in North Bend can be found in section 4.10.1.4 of the DEIS. In a letter to the Commission dated December 22, 2014, commenting on our November 2014 DEIS for this Project, the Southwest Oregon Regional Airport and Coos County Airport District stated that it "strongly concurs with (the) recommendation (in the DEIS for Jordan Cove to document consultations with the Federal Aviation Administration [FAA] and submit the results of studies before Project construction) and believes that the FAA process will assure that the Airport continues to operate safely and efficiently."

**Oregon State Agency Comments**  
**Jordan Cove Energy and Pacific Connector Gas Pipeline Project**  
**Draft Environmental Impact Statement**  
**(Docket # CP13-483-000 and CP13-492-000)**  
**February 12, 2015**

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Oregon State Agency Comments  
Jordan Cove Energy and Pacific Connector Gas Pipeline Project  
Draft Environmental Impact Statement

Introduction

The State of Oregon reviewed and analyzed the draft Environmental Impact Statement ("draft EIS") to ensure it provides a full and fair disclosure of the significant environmental impacts that may result from the siting and operation of the Jordan Cove LNG export terminal facility and the Pacific Connector Pipeline project (hereinafter collectively referred to as, the "Project") as well as the comparative impacts resulting from a reasonable range of alternatives to the proposed action. See 40 C.F.R. § 1502.1; see also 40 C.F.R. § 1502.1 ("An environmental impact statement is more than a disclosure document. It shall be used by federal officials in conjunction with other relevant material to plan actions and make decisions."). Accordingly, Oregon provides the following general comments as well as specific comments and recommendations from each state agency with technical expertise in its respective program area to assist the Federal Energy Regulatory Commission ("Commission") refine this draft EIS to meet the National Environmental Protection Act's ("NEPA's") requirements.

**1. The Commission and Other Agencies May Not Rely Upon Insufficiently Detailed and Unenforceable Mitigation in this Draft EIS to Justify its Conclusion the Proposed Action Will Result in "Less-Than-Significant" Impacts**

Agencies relying upon this draft EIS to support their decisions must ensure that mitigation measures alleged to be reducing impacts "to less-than-significant levels," see Section 5.1 ¶1, are mandatory, specifically described, and fairly evaluated. See 40 C.F.R. §§ 1502.14(f) (requiring discussion of possible mitigation measures in alternatives), 1502.16(h) (requiring discussion of mitigation in addressing environmental consequences of proposed action). The U.S. Supreme Court has stated that "omission of a reasonably complete discussion of possible mitigation measures [] undermine[s] the 'action-forcing' function of NEPA. Without such a discussion, neither the agency nor other interested groups and individuals can properly evaluate the severity of the adverse effects." *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 352 (1989). If proposed mitigation measures are unenforceable, or lack monitoring commitments or sufficient resources to assure performance, the Commission has no reasonable basis to conclude that such measures will effectively reduce environmental impacts. See 40 C.F.R. §§ 1505.2(c), 1508.25(b); see also Memo to Heads of Federal Departments and Agencies, *Draft Guidance for Implementing NEPA Mitigation and Monitoring*, at 4 (Feb. 18, 2010) ("When an agency identifies mitigation in an EIS and commits to implement that mitigation to achieve an environmentally preferable outcome . . . then the agency should ensure that the mitigation is adopted and implemented."). Here, the Commission has represented to decision-makers and the public in this draft EIS that mitigation measures will effectively reduce environmental impacts to less-than-significant levels. As identified in the specific state agency comments that follow, the Commission has not sufficiently identified or analyzed possible mitigation measures to support that conclusion in the draft EIS, and must address the agencies' recommended mitigation measures in the final EIS.

SA1-9

**SA1 Continued, page 5 of 241**

SA1-9 The FERC staff make recommendations to the Commission, the Commission's Public Order will determine the conditions of the Certificate, if one is issued. Typically, the Commission adopts the recommendations in the FEIS and may add additional requirements.

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SA1 Continued, page 6 of 241

Significantly, the draft EIS states that the Commission's staff finds that adverse environmental "impacts would be reduced to less-than-significant levels with the implementation of the applicants' proposed mitigation measures and the additional measures [they] recommend in section 5.2. \* \* \* [And they] recommend that [their] specific additional mitigation measures be attached as conditions to any authorizations issued by the Commission." See draft EIS, section 5.1. Thus, the Commission is *relying upon* the applicant's proposed mitigation to conclude that the disclosed significant environmental impacts will be reduced to "less-than-significant levels," but the Commission staff is only recommending the mitigation measures in Section 5.2 be required components of the Commission's authorizations. Any mitigation that supports the Commission's conclusion that significant environmental impacts have been reduced to less-than-significant levels should be listed as required measures in Section 5.2. This omission is misleading to the public and decision-makers, who would have no recourse to require the applicant to comply with its *proposed* mitigation measures disclosed and analyzed in this draft EIS if such measures are not incorporated as required conditions in the Commission's authorizations.

SA1-9  
Cont'd

Further, Council on Environmental Quality ("CEQ") regulations clarify that mitigation includes "[r]ectifying the impact by repairing, rehabilitating, or restoring the affected environment." 40 C.F.R. § 1508.20(c). However, the draft EIS does not disclose whether sufficient resources are available to ensure that if an accident were to occur involving a LNG vessel that there would be sufficient funds available to carry out the necessary environmental clean-up. At present, a law may limit the liability of vessel owners to the amount of its cargo. See Owner's Liability Act, 46 U.S.C. 181, *et seq.* To appropriately mitigate the potential significant environmental impacts, the State urges the Commission to ensure additional resources are available to correct any resulting environmental damage from a vessel accident. We recommend FERC require the applicant to enter an agreement with each LNG vessel owner intending to berth at the terminal in which such vessel owner waives its right to (or attempt to) limit its liability under that law and to require the vessel owner provide the applicant at all times sufficient evidence that the vessel's protection and indemnity association has agreed to cover the vessel as a member of the association against the liabilities pertaining to such an accident. This is a common method in the industry of helping to ensure sufficient funds are available to respond and correct environmental disasters, and we urge the Commission to require this reasonable mitigation measure.

SA1-10

**2. The Commission and Other Agencies Relying Upon this Draft EIS Must Correct the Deficiencies Related to Missing or Inaccurate Data and Scientific Analysis, as well as Unconsidered Environmental Impacts of the Proposed Action and Alternatives**

NEPA requires that the Commission utilize "high quality" information and accurate scientific analysis," see 40 C.F.R. § 1500.1(b), and ensure "professional integrity, including scientific integrity, of the discussions and analyses" within an EIS. 40 C.F.R. § 1502.24. Oregon state agencies have identified numerous errors and deficient analysis in the draft EIS, as specifically set forth below, which the Commission must address to appropriately disclose and analyze potential significant environmental impacts to comply with that mandate.

SA1-11

In addition, NEPA requires disclosure and analysis of *all* direct, indirect, and cumulative environmental impacts of the proposed action. See 40 C.F.R. §§ 1508.7, 1508.25(c), 1502.16. Further, NEPA specifically defines "indirect effects" as those that are "caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable." 40 C.F.R. § 1508.8(b). Accordingly, the State urges the Commission to resolve the following deficiencies in this draft EIS relative to undisclosed and unconsidered environmental impacts of the proposed action. First, the draft EIS fails to

SA1-12

SA1-10 Jordan Cove's June 10, 2014 MOU with the ODE requires the posting of a bond to cover retirement costs. Also, both companies would have insurance to cover the unlikely event of an incident.

SA1-11 Comment noted.

SA1-12 The text "not...environmental in nature" in Section 1.4.4 has been modified, as has the text inferring that impacts from certain activities are not considered solely because FERC does not have jurisdiction over them has also been modified. However, with regard to the comment about impacts on Oregon's lands and State waters due to air contaminants other than GHG, there are no impacts (given that the NAAQS are protective of lands and waters and the NAAQS are complied with). Section 4.14 has been modified to state this more explicitly. With respect to the impacts of the project's GHG impacts on lands and waters, we agree with the statement in the CEQ's draft guidance published for public review and comment in December 2014, which stated that "in light of the difficulties in attributing specific climate impacts to individual projects, CEQ recommends agencies use the projected GHG emissions...as a proxy for assessing a proposed action's potential climate change impacts" (p. 8). We completely disagree with the statement that "there is no doubt that if FERC did not approve the siting of this Project the 'life-cycle' emissions associated with this Project would not be emitted into the atmosphere"; we believe that it is in fact highly likely that if this Project did not proceed, the gas producers and gas buyers would likely link up through a separate project (e.g., Oregon LNG), or one from another coastal area. Sections 4.12.1.1 through 4.12.1.4 of the DEIS already incorporated (1) a (non-GHG) impacts analysis for the Coos Bay area that incorporates nearby marine vessel emissions; (2) a reasonable discussion of the GHG emissions associated with transoceanic transportation of the LNG; (3) quantification of GHG emissions from end-use combustion of the natural gas; and (4) summaries of life-cycle GHG analyses of these types of projects conducted by other entities. Accordingly, we assert that we are adhering to CEQ's draft guidance that was published for public review and comment in December 2014.

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describe and assess the potential impacts on Oregon's lands and state waters due to air contaminant emissions, including greenhouse gas ("GHG") emissions, from the transportation of LNG during natural gas exploration, collection, distribution, and export to markets outside the United States. The draft EIS refers to these impacts as "life-cycle" cumulative environmental impacts associated with the entire LNG process," but nonetheless states such impacts are not "environmental in nature" and are "out-of-scope issues" because they are "far beyond the jurisdictional authority of the FERC or the activities directly related to the Project." See draft EIS, Section 1.4.4. These conclusions are legally incorrect. For example, as the Ninth Circuit Court of Appeals has explained relevant to the U.S. Army Corps' similar error in construing NEPA, "while it is the development's impact on jurisdictional waters that determines the scope of [that federal agency's] permitting authority, it is the impact of the permit on the environment at large that determines [a federal agency's] NEPA responsibility." See *Save Our Sonoran v. Flowers*, 408 F.3d 1113, 1122 (9th Cir. 2005) (emphasis added).

Notably, the U.S. Supreme Court held that when "an agency has no ability to prevent a certain effect due to its limited statutory authority over the relevant actions, the agency cannot be considered a legally relevant 'cause' of the effect" so as to require that agency to disclose such effects in its EIS. *Dep't of Transp. v. Pub. Citizen*, 541 U.S. 752, 770 (2004). Here though, in contrast, there is no doubt that if FERC did not approve the siting of the Project the "life-cycle" emissions associated with this Project would not be emitted into the atmosphere – no Presidential authorization allows for LNG to be extracted, sent to Coos Bay, and then shipped overseas. See *id.* at 769. Further, this is not a case where the effect is a "risk" as opposed to an effect on the physical environment. Instead, there is a direct (not attenuated) causal connection between FERC's approval of the LNG export facility and the impact on the physical environment (e.g., emissions) resulting from transportation, for example, of that LNG from where it is extracted, to Oregon, and then overseas. See *Metro. Edison Co. v. People Against Nuclear Energy*, 460 U.S. 766, 774-75 (1983). Moreover, the State is not asking for more than a "reasonably thorough discussion" and disclosure of the air contaminant emissions that may result as a consequence of this approval – even if the extent of such emissions are uncertain. See *S. Coast Air Quality Mgmt. Dist. v. FERC*, 621 F.3d 1085, 1094-95 (9th Cir. 2010) (holding that an EIS's reasonable, even though limited, disclosure and analysis of emissions resulting from burning of natural gas supplied by a pipeline subject to FERC's approval "contain[ed] a reasonably thorough discussion of the environmental impact of its actions, based on information then available to it."); 40 C.F.R. § 1502.22 (addressing how an agency should handle incomplete or unavailable information in an EIS). We urge the Commission to adhere to the CEQ guidance released on December 18, 2014, which describes how the Commission should consider the effects of GHG emissions and climate change in their NEPA reviews.

Secondly, with respect to natural gas price increases, this indirect effect will likely result in socioeconomic impacts on the State and beyond; therefore, this EIS should disclose and analyze such impacts to inform decision-makers and the public that these consequences have been considered. Although CEQ regulations state that "economic or social effects are not intended by themselves to require preparation of an environmental impact statement," in this instance the economic and social effects are interrelated with the impacts on the physical environment such that this EIS should address all such impacts. See 40 C.F.R. § 1508.14. This draft EIS should, therefore, disclose the potential increase in domestic natural gas prices and resulting socioeconomic impacts, including the number of affected landowners and land values reduced due to the pipeline or terminal's location. Further, since the applicant has made several claims regarding the positive potential economic effects of its planned terminal and pipeline, the Commission should assure itself that no potentially adverse economic effects negate those claims if it will rely upon this draft EIS to justify its conclusion as to whether this terminal is in the public interest or whether the construction and operation of the pipeline is required by the

SA1-12  
Cont'd

SA1-13

SA1-13

A 2012 study by the Energy Information Administration (EIA) of the U.S. Department of Energy (DOE) stated: "...U.S. natural gas prices are projected to rise over the long run, even before considering the possibility of additional exports." Another 2012 study by NERA Economic Consultants for DOE found that the nation is "...projected to gain net economic benefits from allowing LNG exports."

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present or future public convenience or necessity. See Natural Gas Act, 15 U.S.C. §§ 717b(a), 717f(e); see also Certification of New Interstate Natural Gas Pipeline Facilities, 88 FERC ¶ 61,227, at 27 (Sept. 15, 1999) ("The strength of the benefit showing will need to be proportional to the applicant's proposed exercise of eminent domain procedures."). See generally 40 C.F.R. § 1500.1(b).

3. *The Commission and Other Agencies Relying Upon this Draft EIS Must Not Foreclose Consideration of Reasonable Alternatives to the Proposed Action*

As part of its scoping comments, the State of Oregon recommended that the Commission abandon its practice of issuing conditional orders before receiving authorizations delegated to the State under the Clean Water Act (CWA), the Coastal Zone Management Act (CZMA), and the Clean Air Act (CAA). Again, the State urges the Commission to await such authorizations to avoid violating NEPA's procedural provisions, see 40 C.F.R. 1502.14<sup>1</sup>, as well as the substantive provisions of the above-listed federal laws. See 33 U.S.C. § 1341(a); 16 U.S.C. § 1456(c)(3)(A); 42 U.S.C. § 7416; 16 U.S.C. § 1536(d); see also 40 C.F.R. § 402.09. NEPA mandates that federal agencies "[r]igorously explore and objectively evaluate all reasonable alternatives" as well as to "[i]nclude appropriate mitigation measures not already in the proposed action or alternatives." 40 C.F.R. § 1502.14(a),(f). However, if the Commission issues a conditional approval (after completion of this NEPA process and) before completion of necessary state authorizations under the CWA, CAA, and CZMA, see 5 U.S.C. § 717b(d), this practice will foreclose the formulation of an alternative that an Oregon state agency may deem necessary when carrying out its delegated authority under those laws. It is unwarranted to assume that the Oregon Department of Environmental Quality's ("ODEQ's") review in accordance with CWA section 401, for example, will lead to a determination that the proposed Project will not violate state water quality standards (or alternatively to assume that any exceedance may be effectively mitigated) without potentially necessitating a change in routing of the pipeline. We urge the Commission not to circumvent ODEQ's review that may disclose a potentially significant environmental impact that this draft EIS did not disclose and consider. In short, the Commission's completion of its NEPA process before issuance of the state's necessary authorizations under the CWA, CAA, and CZMA will foreclose the consideration of reasonable alternatives to the proposed action raised as part of, for example, the Department of Land Conservation and Development's consistency review under the CZMA. We urge the Commission to negate the necessity of supplementing its EIS or otherwise violating NEPA by conditionally approving this Project before the relevant state agencies complete their on-going authorization processes.

In light of the Commission's NEPA obligations, the State of Oregon urges the Commission to consider carefully each of Oregon's comments and recommendations and to modify specified sections of the draft EIS to address cited concerns, and where appropriate, to incorporate agency recommendations as required conditions in the Commission's authorizations to support the Commission's conclusion that significant environmental impacts have been reduced to "less-than-significant levels."

<sup>1</sup> Or alternatively, requiring FERC to issue a supplemental EIS, see 40 C.F.R. 1502.9(c)(1).

SA1-14

FERC is not circumventing ODEQ's review. The EIS considers the environmental effects of the proposed project. The Commission will use the information in the EIS and other analyses in preparing its Public Order. Any approval by the Commission would be conditioned on the applicant meeting all permitting requirements, including ODEQ's. See section 1.5.1.

SA1-13  
Cont'd

SA1-14

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#### Agriculture, Oregon Department of (Agriculture)

Jim Johnson

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The Oregon Department of Agriculture ("Agriculture") requests that the draft EIS be revised to reflect the following environmental impacts not identified nor considered in Section 4 and that this draft be amended to include recommended mitigation measures to avoid or minimize these impacts.

First, the proposed LNG pipeline in the Coos Bay estuary will impact two commercial oyster growers. These include the Coos Bay Oyster Company and Clausen Oysters. Both these operations are major oyster producers in Oregon and together they employ over 30 people. The location of the proposed pipeline will run in a channel that separates active oyster beds used by both companies. These oyster beds are prime growing grounds for both growers, because the substrate is firm, and oysters grow well at these locations. Clausen Oyster uses the ground adjacent to the proposed pipeline for their high value Kumamoto oysters and also as a nursery area for young oysters to grow. For Coos Bay Oyster Company, the area represents their most intensively farmed leases that account for the bulk of their sales. In the case of Coos Bay Oyster, oysters have been planted to within 75' of this channel. It also important to take into account and consider potential implications to other tidelands located within Haynes Inlet that are capable of being used for oyster cultivation but are not currently under lease or production.

A major concern is that oysters could become buried or otherwise implicated by increased turbidity and the stirring of area sediments. This could adversely affect the feeding and/or meat quality of the oysters. LNG development activities could also stir up other materials that could be deleterious to oyster production. With this in mind, it is suggested that before any dredging or trenching occurs that sediments located in the areas proposed for LNG development be tested for chemicals, inorganics and heavy metals. This would provide an inventory of what elements exist within the area waters and sediments. With this inventory in hand, a baseline survey (of the inventoried elements) should be completed in the existing and potential oyster area of the waters, sediments and of a good sample of oyster meats within the Hayes Inlet area. Upon completion of development activities, a survey should again be conducted of the waters, sediments and oyster meats and compared against the baseline data. Any adverse conditions resulting from development activities could then be dealt with.

Another significant impact that should be identified and discussed in this EIS, which is of particular concern for Clausen Oysters, is the proposed restriction of access to the channel during dredging. The only way Clausen Oysters can access any of their growing areas is through the Haynes Inlet channel at high tide. If LNG development restricts boat traffic in the channel, Clausen Oysters may be unable to harvest or otherwise work any of their beds during the entire construction phase unless provision is made for their passage.

These adverse environmental impacts and associated socioeconomic impacts should be disclosed to the public and decision-makers in this EIS. Furthermore, we urge the Commission to adopt as a required condition of its approval that JCE & PCGP minimize channel access restrictions to the maximum extent practicable to appropriately mitigate the Project's impacts on these oyster-growing operations.

Oregon State Agency Consolidated Comments:

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SA1-15

PGCP RR3 page 48 of Pacific Connector's Resource Report filed with FERC on February 6, 2013 and available on eLibrary states: "No hazardous waste sites are known in the area of Coos Bay that would be crossed by the pipeline, so toxic effects from re-suspended sediment should not occur. However, much development, including boat painting with toxic compounds (e.g. metals, tributyltin, polyaromatic hydrocarbons, polychlorinated biphenyls – Oregon Department of Environmental Quality, 2013), has occurred in Coos Bay in the past. Catching Slough has records of elevated levels of tributyltin in the sediment (Elgethun et al., 2000). Pacific Connector would avoid direct impacts on Catching Slough by crossing under it with a bore. There may be some risk of newly disturbed areas containing some unknown quantities of potentially hazardous compounds. Pacific Connector has prepared a plan to handle contaminated sediments discovered by pipeline construction (see Appendix E to the Plan of Development (POD), provided as a stand-alone document). Additionally sediment characterization relative to potential toxic substances was evaluated by PGCP in a report: "Sediment Characteristic of Pacific Connector Gas Pipeline Project Haynes Inlet, Oregon" August 2, 2010 where contaminants of concern have not been identified near the project area within Coos Bay, including Haynes Inlet, at concentrations greater than Sediment Evaluation Framework screening levels. Therefore, it is unlikely that the project activities will present unacceptable risks to the receptors of concern identified in the Model. There may be some risk of newly disturbed areas containing some unknown quantities of potentially hazardous compounds. Pacific Connector has prepared a plan to handle contaminated sediments discovered by pipeline construction (see Appendix E to the Plan of Development (POD), provided as a stand-alone document). The evaluation of sediment and turbidity levels being elevated to substantial levels outside of the immediate trenching area was modeled and determined they would be mostly low and within normal winter turbidity level ranges (see responses to CO39-49, 51, 53 and 54). The applicant will coordinate with ODFW concerning methods and actions to occur in the Haynes Inlet crossing including obtaining all needed permits.

SA1-16

Comment noted.

SA1-17

Comment noted.

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#### Aviation, Oregon Department of (ODA)

Jeff Caines

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Using the Federal Aviation Administration (FAA) standards, the Oregon Department of Aviation (ODA) requests the draft Environmental Impact Statement (EIS) be revised to reflect the following environmental impacts not identified nor considered in Section 4, and that this draft be amended to include recommended mitigation measures to avoid or minimize these impacts.

**CITATION:** Chapter 4.10.1.4 – Air Traffic Page 4-841 & 4-842

**Issue:** Potential air traffic disruption caused by an LNG vessel crossing the channel was not identified and therefore not sufficiently analyzed in this draft EIS. This analysis is needed to alert decision-makers and the public of potential socioeconomic impacts that may result from the proposed action.

**Discussion:** The draft EIS did not address in detail the possible impacts of disrupted air service to the airport that may occur as a result of the proposed action. The draft EIS stated that a worst-case scenario could entail a 4 to 10 minute delay for aircraft. The draft EIS stated that vessel transport would be known in advance, therefore, the planes or ships may schedule around each other. However, the draft EIS fails to address a potential resulting conflict and also fails to address the potential danger of having LNG vessels cross the approach to runway 4-22 in transit to and from the proposed LNG terminal.

First, the draft EIS does not address the impact that potential delays in already scheduled commercial air service could have on the local area. For example, air service schedules are set well in advance in order to connect air service across the country. Flight schedules are not based on nautical condition. The Southwest Regional Airport has both scheduled passenger and cargo air service that connect into larger airports for continued air travel. A delay of 4 and 10 minutes to allow LNG vessels to pass could result in passengers or cargo missing connecting flights. The draft EIS states that passenger counts have been decreasing and it is not out of the norm for air service on some carriers to cease operations.

Second, the draft EIS identifies that the LNG vessel will cross the approach to runway 4-22 while in transit to and from the terminal. It also recognizes that air service could be disrupted by vessel transit. However, this section did not identify the risk to aircraft when there is not an air traffic controller in the control tower talking to both the pilot and the LNG vessel. The Airport's control tower is not staffed 24 hours a day even though the airport is open 24 hours a day. Without a mitigation plan, it could make it difficult for aircraft to know when an LNG vessel is passing through the channel when the aircraft is in instrument conditions. Although the LNG ship height has not yet been determined by FAA flight procedures to interrupt the ILS approach, there is a high likelihood that the LNG ship height may interrupt the ILS approach.

Additionally, this section of the draft EIS fails to identify any safety measures that need to be in place (e.g., mitigation) to prevent aircraft from crossing the channel when ships are in transit or to otherwise prevent a potential collision from occurring. If, for example, a harbor pilot was trained to communicate on an aviation radio, then a communication procedure could be put in place to avoid this collision danger that would result in significant environmental impacts.

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SA1-18

We do not consider occasional 4 to 10 minute delays to be a significant issue. Many factors cause delays in landings and takeoffs, including weather, staffing issues, and mechanical problems. The airport deals with these delays on a regular basis. FERC is requiring that, prior to construction, Jordan Cove file documentation of its consultations with the FAA as well as official determinations made by the FAA with respect to the LNG terminal and related facilities. In a letter to FERC dated December 22, 2014 (Accession No. 20141229-0013), the Southwest Oregon Regional Airport stated that it "believes that the FAA process will address and resolve any impacts of the Project on the Airport and will allow the Project to proceed as proposed without having an adverse effect on Airport operations or safety." Jordan Cove is continuing to work with the FAA to resolve potential hazard issues, which have been added to the FEIS.



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SA1 Continued, page 11 of 241

**Recommended Resolution:** ODA recommends that this draft EIS identify the potential adverse socioeconomic impacts and collision danger that may result from the proposed action. ODA also recommends this draft EIS include a mitigation measure for when LNG vessels are in transit (day or night) and an FAA-certified air traffic controller is not on duty. Harbor pilots working in this channel could also be trained to communicate on an aviation radio to avoid this collision danger. This draft EIS should identify, discuss, and recommend a communication procedure that is approved by the FAA, Tower Chief, Port, and other appropriate airport personnel for any vessel navigating through the Instrument Landing System (ILS) critical area, and the Commission should adopt such procedures as required conditions of its approval.

SA1-18  
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**CITATION:** Chapter 4.10.1.4 – Air Traffic Page 4-842

**Issue:** The draft EIS fails to identify that there have been no findings of determinations for the entire project by the Federal Aviation Administration (FAA) and the design of the LNG facility has changed considerably since the FAA's limited aeronautical review based upon information submitted in 2008.

**Discussion:** The draft EIS states that the applicant submitted FAA 7460-1 forms to the FAA for review, and that on "November 1, 2008 the FAA issued a limited aeronautical review." The FAA found that the LNG terminal would have "no impact" to the airport. Neither the draft EIS nor its appendices have copies of the FAA 7460-1 forms to support this statement. ODA staff has spoken with FAA staff at the Seattle District Office (ADO) staff to confirm the DEIS statement quoted above. According to the FAA, there have been no findings of determinations for the entire project. In addition, ODA has received revised FAA 7460-1 forms for the Jordan Cove project since it has been modified from the 2008 design. Therefore, the draft EIS representations are inaccurate.

SA1-19

**Recommended Resolution:** FERC should require the applicants to submit current and accurate FAA 7460-1 form(s) with a detailed site map that identifies the final design of all proposed structures in relationship to the Southwest Regional Airport to the FAA and the ODA before it finalizes this draft EIS to allow these agencies to consider that information to provide its analysis for the public's and decision-makers' consideration.

**CITATION:** Chapter 4.10.1.4 – Air Traffic Page 4-482

**Issue:** The draft EIS fails to identify the potential adverse socioeconomic impacts that may result if the FAA determines that this project is a potential hazard to air navigation.

**Discussion:** ODA has identified that the LNG tanks are potential hazards to air navigation for aircraft flying near or to/from the Southwest Regional Airport. By having structures penetrating the horizontal surface (as identified in 14 CFR 77), the FAA may require the landing minimums to be increased in order to preserve safety in aircraft missed approach procedures. (If an aircraft is unable to safely land on a runway, a 'missed approached' procedure is used to allow for the aircraft to circle around the airport and attempt another safe landing or divert to another airport.)

SA1-20

Runway 13-31 is still operational and is used by general aviation, as well as by commercial and charter service aircraft. The potential structures that penetrate the horizontal surface (i.e., the LNG storage tanks and LNG vessel) also affect runway 13-31. Currently, the horizontal surface is 167' above the airport's runway. Anything above that level within 10,000 feet of the runway are classified as hazards by FAA standards. The safety concern is that if an aircraft is experiencing an emergency situation and they follow current procedures that involve a left turn, there is potential for the aircraft to strike either the LNG storage tank or the LNG vessel (while in port), due to those structures penetration of the horizontal

SA1-19 The DEIS states that the FAA 2008 review was not an official determination of findings (Section 4.10.1.4). FERC is requiring that, prior to construction, Jordan Cove file documentation of its consultations with the FAA as well as official determinations made by the FAA with respect to the LNG terminal and related facilities. Updated FAA 7460-1 forms have been filed by the applicant and pertinent information included in the FEIS.

SA1-20 As previously noted, Jordan Cove is required to meet all FAA regulations and to file any official determinations prior to construction. The information provided regarding potential adverse socioeconomic effects from a scenario where the FAA determines the Project poses a hazard to air navigation has been added to the FEIS.

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SA1 Continued, page 12 of 241

surface. There is also a potential for there to be a negative impact to the Instrument Flight Rules and Visual Flight Rules associated with arrival and departure procedures.

The draft EIS also does not identify the issue that the FAA may consider the LNG tanks on a LNG vessel that is moored at the port terminal to qualify as a "storage tank" under USDOT regulation 49 CFR Section 193.2155. For example, this federal regulation requires that storage tanks be at least one mile from the end of an airport runway or 0.3 mile from the nearest point on a runway, whichever is longer. However, this regulation does not specifically discuss the tanks on the LNG vessel and whether these tanks may be classified or considered storage tanks. If the FAA determines that the LNG tanks on the vessel are considered storage tanks, the location of the vessel while at port is closer than the required minimum of one mile of separation to the end of the runway.

Finally, the draft EIS did not address how the proposed LNG tanks and vessel meet the full requirement of 49 CFR Section 193.2155 by addressing the height of the LNG structures. The second sentence in 49 CFR Section 193.2155 states, "the height of LNG structures in the vicinity of an airport must also comply with Federal Aviation Administration requirements in 14 CFR Section 1.1."

In sum, if the Project's structures penetrate the airport's horizontal surface (above 167-feet MSL for OTH), the FAA could deem the structures a hazard to air navigation. This FAA determination could result in any of the following adverse impacts that should be disclosed in the DEIS:

- Reduce operations on runway 13-31 to some air traffic.
  - Any such reduction may affect FAA grant assurances for federally funded assets.
  - And any such reduction may eliminate the potential for any new Federal grant money to be invested at the airport/runway because the amount of infrastructure that needs to be maintained could decrease.
- Adversely impact the instrument landing system by either increasing the landing minimums or in the worst case, prohibiting instrument landing system approaches which would then make the airport a Visual Flight Rules (VFR) only airport.
  - If the airport goes to VFR-only status, then commercial (Part 139) activity may cease to operate at the airport.

**Recommended Resolution:** FERC should update its draft EIS with accurate information relative to the Project's design. FERC should also have the applicant demonstrate how the proposed LNG tanks and vessel meet current USDOT and FAA regulations as it relates to potential hazards to air navigation under current air traffic patterns in Category A-D airspace in both Instrument and Visual Flight Rules. FERC should also disclose in this draft EIS the potential socioeconomic impacts to the local area that may result if the FAA makes any future determination that the project's structure are a potential hazard to air navigation.

**CITATION:** Chapter 4.10.1.4 – Air Traffic Page 4-842 & 4-843

**Issue:** This draft EIS does not identify that the FAA has not yet issued any final determination regarding the project. Instead, it states only that forms have been filed and are being reviewed, when to date, the only forms reviewed are those based on an earlier design submitted in 2008.

**Discussion:** The applicant states that they have "worked with the FAA and designed the proposed facilities to comply with FAA rules, specifically 14 CFR 77," but then states that the FAA 7460-1 forms are "currently being reviewed." The applicant has stated that the LNG storage tanks would qualify as obstructions without supplying the recommendation of the FAA or providing an independent mitigation

SA1-20  
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SA1-21



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plan. The applicant recommended that the project file any aeronautical studies conducted under the FAA Part 77 (i.e., FAA 7460-1). As of the date of this document, there has been no official FAA decision to determine if this project poses a hazard to air navigation. The FAA 7460-1 referenced in the draft EIS were filed in 2008 and since that filing, the design of the LNG structures and the overall project has changed in scope.

**Recommended Resolution:** Before finalizing this draft EIS, FERC should await the FAA's determination as to whether the proposed structures constitute a potential hazard to air navigation based on FAA 7460-1 forms that reflect the final design of the project's proposed structures. The FAA's determination constitutes the high-quality and accurate scientific analysis that NEPA requires. The ODA recommends that this draft EIS include the impact of the tall structures and LNG ships on the airport and instrument approaches validated by the FAA. ODA recommends that the applicant develop a mitigation plan that avoids or mitigates for the above-described adverse environmental impacts, that this plan be identified in the draft EIS, and that it be included in the staff's recommended mitigation measures.

SA1-21  
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#### Business Oregon

Sean Robbins

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503-986-0110

As the State's economic development agency, our charge at Business Oregon is to advance Oregon's economy and support its businesses to grow jobs and companies. The Jordan Cove Energy project presents our state with a generational opportunity to reshape the economic story of a region severely affected by decades of anemic economic growth, Oregon's South Coast.

A generation ago, Coos Bay was a symbol for how natural resources and global trade could power community prosperity in rural communities. At one time, Coos Bay was the largest lumber exporting port in the world. The forests and the port provided family-wage, traded-sector jobs that, in turn, supported the community's schools, libraries, firefighters and retailers.

With changes in the forest policy and the compounded effect of major recessions, Coos Bay's economic fortunes have changed drastically. In 1995, the Port of Coos Bay had 12 active terminals. Today, only three remain operational and unemployment and poverty remain systemic issues that affect working families. Coos Bay has spent decades searching for a new industry, company or project to propel the economy.

Though Jordan Cove Energy project is not a cure-all for Oregon's South Coast, the project's scale and global connections make it a unique and potentially transformational economic development opportunity for the region. If built, this project would be the first — and maybe the only — U.S. West Coast LNG terminal, giving the Pacific Northwest a unique competitive advantage in the international energy market and provide a bridge to the growing clean energy demand in Asia.

According to an EcoNorthwest study on the project, local construction activities would employ, on average, 1,768 workers receiving \$182.6 million in compensation over a three-year construction cycle. After it's built, the company plans to have about 145 permanent employees who would earn wages of, on average, \$80,000 — more than double Coos County's median household income. The facility is also estimated to support over 400 indirect full-time jobs in the wider region.

It is estimated that the Jordan Cove Energy project would boost Coos County's GDP by \$1.5 billion and would generate roughly \$40 million in State income taxes during the four-year construction period. The project will also bring significant revenue to the local community through the Community Service Fee arrangement. In this unique collaborative arrangement, approximately \$12 million will be paid annually to local public and non-profit organizations during the construction phase of the project, and over \$21 million will be paid out annually when the project is operational. Half of the annual payment will go towards education funding in the region — giving a needed boost to the local workforce and community.

The region will also receive infrastructure and public safety benefits as a result of the project. During construction, the project will contribute to off-set any additional costs associated with public safety, including fire and police. Over the long-term, the project will build and fund the operations of a public safety facility, complete with full-time fire and emergency response crew, a County Sheriff's sub-station, offices for the Port and the Coast Guard. The facility will be dedicated to the project but will be available to support the cities of North Bend and Coos Bay as needs arise.

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#### SA1 Continued, page 14 of 241

SA1-22 Economic benefits associated with the terminal are discussed in section 4.9.1.4, tax revenues in 4.9.1.5. Economic benefits associated with the pipeline are discussed in section 4.9.2.4, tax revenues in 4.9.2.5. The environmental effects are evaluated in applicable sections of Chapter 4.

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**SA1 Continued, page 15 of 241**

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Coos Bay leaders have worked diligently and thoughtfully to rebuild their economy. The Jordan Cove Energy project would help propel their work forward. We appreciate your long and careful analysis of the project's costs and benefits for the region, state and country. We understand there are many considerations beyond the economics, and we support a full analysis of this opportunity.

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**Energy, Oregon Department of – Siting (ODOE)**

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The Oregon Department of Energy (ODOE) has reviewed this Draft Environmental Impact Statement (EIS) and indicated below where the text states inaccurate information or otherwise relied upon inaccurate information in its analysis. ODOE's recommendations are intended to assist FERC to amend its analysis to correct such deficiencies.

No.	Citation	Issue Identification	Recommended Resolution
1	1.5.4.2 Pg. 1-49	This section fails to affirmatively state the Energy Facility Siting Council's authority to review the South Dunes Power Plant facility and either approve or deny issuance of a site certificate.	ODOE recommends the following revisions: "In addition, the ODE's EFSC <del>would have</del> [has] authority to approve or disapprove Jordan Cove's South Dunes Power Plant, and if approved, the EFSC would issue a site certificate. A site certificate is a binding agreement between the State of Oregon and the applicant, authorizing the applicant to construct and operate the facility on an approved site. To issue a site certificate, the EFSC must find that the facility complies with the EFSC standards as well as all other applicable Oregon statutes and administrative rules identified in the Project Order. The ODE serves as staff to EFSC."
2	1.5.42.	This section fails to properly explain the EFSC review process.	ODOE recommends the following revisions: "During the review process, the company would file a Notice of Intent, <del>EFSC</del> [the ODE] would issue a Project Order [and] the company would file its Application for a Site Certificate. After review of the application, ODE would issue a Draft Proposed Order, with recommended findings of fact, conclusions of law and site certificate conditions. Following close of the record on the DPO, ODE would issue a Proposed Order and Notice of Contested Case proceeding. The contested case proceeding is conducted by an appointed hearing officer. Following the contested case proceeding and issuance of the hearing officer's proposed contested case order, EFSC would issue <del>the</del> [a] Final Order, which is the decision document, [approving or denying issuance of the site certificate.] <del>after hearings</del>

SA1-09

SA1-09

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SA1-23 This information has been added to the FEIS.

SA1-24 This information has been added to the FEIS.

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3	1.5.4.2 Pg. 1-49	This section fails to properly characterize where Jordan Cove is in the EFSC review process.	ODOE recommends the following revisions be made: "Jordan Cove filed its original Notice of Intent for the South Dunes Power Plant with the EFSC on August 1, 2012, and amended that notice on November 30, 2012. <del>EFSC</del> [ODE] issued a public notice, and took comments on the amendment up through January 4, 2013. On February 14, 2013, <del>EFSC</del> [ODE] issued its original Project Order for the South Dunes Power Plant, with an amended Project Order issued on October 14, 2013. <del>has not yet filed its Application for Site Certificate with the EFSC.</del> Jordan Cove submitted its preliminary Application for Site Certificate on January 09, 2014. ODOE determined the application to be complete on December 23, 2014 and Jordan Cove filed the ASC on December 29, 2014. ODOE is reviewing the application and preparing the Draft Proposed Order."	SA1-25
4	1.5.4.2	This section incorrectly identifies OAR divisions as applicable to "energy facilities."	OAR Chapter 345, Divisions 30-95 are not applicable to the review of "energy facilities." ODOE recommends removing those references from that section.	SA1-26
5	Table 1.5.1-1	This table inaccurately represents where we are in the EFSC process.	ODOE recommends the permit status column be updated to reflect that Jordan Cove has submitted its Application for a Site Certificate. Additionally, ODOE recommends the statement "Site Certificate Pending" be modified to "Review is pending" as it is not yet certain whether a site certificate will be issued or even whether there will be a recommendation of approval to the Council from ODOE.	SA1-27
6	1.1.2 Pg. 1-5	This section misstates transmission line voltage	ODOE recommends the following revision: "utility corridor, about 1 mile long and 150 feet wide, between the LNG terminal and the South Dunes Power Plant, including a <del>230-</del> [115]kilovolt (KV)..."	SA1-28
7	1.1.2 Pg. 1-4	This section fails to identify the additional structures which are 'related and supporting facilities' to the South Dunes Power Plant and, therefore, subject to EFSC review and authority.	ODOE recommends identification of the following 'related and supporting facilities': <ul style="list-style-type: none"> <li>• A 115-kilovolt, AC, open-air switchyard</li> <li>• Transmission Lines: (1) a one-mile, double-circuit, 115-kV transmission line, connecting the switchyard at</li> </ul>	SA1-29

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SA1-30 This information has been added to the FEIS.

			<p>SDPP to the gas-insulated substation at the JCEP LNG Plant. This line is located in the JCEP utility corridor; (2) a second 115-kV, single circuit, line, 2,2024 feet in length, connecting the switchyard to the relocated substation in the southeast portion of the SDPP site.</p> <ul style="list-style-type: none"> <li>• Substation: the existing on-site substation will be relocated to an area in the southeast portion of the SDP site.</li> <li>• Water system connections and distributions</li> <li>• Roads</li> <li>• Barge Berth</li> <li>• Gas Pipeline: 10 inch boil off gas natural gas line from the LNG plant to the facility</li> <li>• Gas metering station</li> <li>• Administration Building</li> <li>• Control Building</li> <li>• Operations Building</li> <li>• Stormwater pond</li> <li>• Fuel storage tank</li> <li>• Water treatment facilities and plant</li> </ul>	SA1-29 Conf'd
8	4.1.1.1 Pg. 4-8	This section does not appropriately characterize EFSC's land use standard as applicable to the South Dunes Power Plant.	<p>ODOE recommends including the following statement in that section: <b>With regards to the South Dunes Power Plant, Jordan Cove must still demonstrate compliance with the EFSC Land Use standard. Under that standard, pursuant to ORS 469.504, EFSC must determine that the facility complies with the applicable substantive criteria from the affected local government's acknowledged comprehensive plan and land use regulations that are required by the statewide planning goals and in effect on the date the application is submitted, and with any Land and Conservation and Development Commission administrative rules and goals and any land use states that apply directly to the facility under ORS 197.646. For purposes of this statute, the date the preliminary application is received by the department is the date the application is submitted.</b></p>	SA1-30

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9	4.8.2.2 Pg. 4-756	In this section, OAR 345-021-0010(r) is referenced in the discussion of visual impacts, the identification of Key Observation Points and the appropriate viewshed distances for the pipeline impacts. For clarification, OAR 345-021-0010(r) does not include any specific viewshed distances or a requirement to identify key observation points.	ODOE recommends removing the reference to OAR 345-021-0010(r) or further clarifying the reference and direction provided by ODE.
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#### Energy, Oregon Department of – Emergency Preparedness (ODOE)

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##### CITATION: Table of Contents, Page iii

The Draft Environmental Impact Statement (EIS) omits in its entirety Section 4.13 on "Reliability and Safety" from the Table of Contents.

**Recommended Resolution:** Include Section 4.13 in the Table of Contents on page iii of the draft EIS. This will ensure citizens and stakeholders can easily find the information in the DEIS to determine whether the reliability and safety components of the proposed project are sufficient. The section should read:

4.13	RELIABILITY AND SAFETY.....	4-920
4.13.1	Regulatory Agencies.....	4-920
4.13.2	LNG Facility Hazards.....	4-921
4.13.3	Technical Review of the Facility Preliminary Engineering Design.....	4-929
4.13.4	LNG Facility Siting Requirements.....	4-940
4.13.5	LNG Facility Siting Analysis.....	4-944
4.13.6	LNG Vessel Hazards.....	4-973
4.13.7	LNG Facility and LNG Vessel Emergency Response.....	4-982
4.13.8	Conclusions on Facility Reliability and Safety.....	4-984
4.13.9	Pipeline Facilities.....	4-985

SA138

##### CITATION: 4.13: Reliability and Safety – Pages 4-920 – 4-984

The Oregon Department of Energy (ODOE) reviewed the facility reliability and safety components of the draft EIS, and it supports inclusion in the federal license of all of the conditions identified by the Federal Energy Regulatory Commission (FERC or Commission) to ensure the reliability and safety of the facility and waterway during the construction and operation of the Jordan Cove Energy Project (JCEP). ODOE supports the on-going work between JCEP and federal, state, and local emergency response agencies to ensure public health and safety in the event of an LNG accident at the LNG terminal or along the waterway transit route.

SA100

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#### SA1 Continued, page 19 of 241

- SA1-31 The reference to OAR 345-021-0010(r) has been removed.  
SA1-32 This information has been included.  
SA1-33 This information has been included.

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ODOE has been working with the applicant, U.S. Coast Guard (USCG), state agencies, Coos County, City of Coos Bay, City of North Bend, and local law enforcement and fire agencies on the reliability, safety, and security at JCEP since 2006. ODOE and the agencies participated in USCG's Waterway Suitability Assessment (WSA) effort to determine whether the waterway was suitable for LNG transport. The WSA Validation Committee review and evaluation of the JCEP WSA resulted in a USCG Letter of Recommendation in 2009 to FERC deeming the waterway suitable for LNG transport as long as certain conditions are met.

Among the conditions that ODOE considers the most important to mitigate risk to safety and security of the facility and the waterway and to minimize off-site impacts to Oregon citizens in the event of an emergency at JCEP is the requirement for JCEP to develop an Emergency Response Plan (ERP). The ERP is to include a Cost-Sharing Plan that identifies mechanisms for funding all project-specific security/emergency management costs that would be imposed on the state and local agencies.

JCEP has cooperatively worked with the state and local emergency response agencies to develop a draft ERP and a Cost-Sharing Plan. As stated on page 4-984 of the DEIS, in 2008, ODOE established the requirements for all LNG projects in Oregon. In 2009, JCEP signed a MOU with the State of Oregon that established a framework for cooperation between the State of Oregon and JCEP that outlines the responsibilities of JCEP and ODOE with respect to the safety, and security of the terminal, including the resources and financing that JCEP would provide to state and local entities for safety and security services. In the MOU, JCEP agreed to provide personnel, training, and adequate funding to ensure the necessary safety and security resources would be available prior to operation and throughout the life of the project. The 2009 MOU was replaced and superseded by a revised MOU on LNG emergency preparedness for the export terminal signed on June 10, 2014 between ODOE and JCEP. ODOE and the other state and local agencies will continue to meet quarterly with the applicant and USCG on reliability, safety, and security issues. The draft ERP, Cost-Sharing Plan, and the MOU between ODOE and JCEP are living documents and may be reviewed and modified as needed. In particular, the draft ERP and Cost-Sharing Plan are works in progress, and while ODOE approves of the current drafts in concept, ODOE reserves the right to make modifications prior to recommending a version of the ERP and Cost-Sharing Plan for FERC's approval.

**Recommended Resolution:** ODOE recommends that this draft EIS include in section 5 that the Applicant is required to continue to provide personnel, training, and adequate funding to ensure the necessary safety and security resources throughout the life of the project, as required by the ERP and Cost-Sharing Plan (both of which must be approved by FERC prior to construction, in consultation with ODOE and other statutorily defined entities), which may be amended from time to time upon the mutual agreement of ODOE and JCEP and the approval of FERC.

SA1-33  
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**Environmental Quality, Oregon Department of (ODEQ)**

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541-687-7435

The Oregon Department of Environmental Quality (ODEQ) has reviewed this Draft Environmental Impact Statement (EIS) and indicated below where the text states inaccurate information or otherwise relied upon inaccurate information in its analysis. Additionally, ODEQ has identified where this draft EIS is missing information and analysis that must be addressed to comply with NEPA. ODEQ urges the Commission to include its recommendations in the final EIS.

No.	Citation	Issue Identification	Recommended Resolution
1	Section 1.5.4.3, P. 1-50	The draft EIS states that JCEP has provided ODEQ with information to facilitate analysis of project effects on water quality.	ODEQ reserves the right to request additional information to complete our analysis and fulfill our independent obligations. Section 401(b) of the federal Clean Water Act (CWA) authorizes states to determine whether a federally approved action which causes discharge to waters of the state will comply with CWA Sections 301, 302, 303, 306, and 307, state water quality standards, and other relevant portions of state law. ODEQ is the state agency authorized to certify requests for federal permits pursuant to CWA Section 401 and may conditionally grant, deny, or waive certification based on our analysis of project-related impacts.
2	Section 1.4.1 Purpose and Scope of FERC's Action, P. 1-15	The DEIS fails to identify actions necessary to fully characterize the scope of the proposed project. 40 CFR 1508.25 requires lead agencies to consider actions which may be connected, cumulative, and/or similar to the proposed activity. This deficiency has direct consequences on the ability of the DEIS to fully consider project alternatives and impacts.	The following actions are inter-related and interdependent parts of the proposed action and must be included in the scope of the project:  1) Temporary North Point construction workers camp. The facility will be located on 48 leased acres and require sanitary service, roadwork, and a bridge. Because development of the workers camp is directly related to the project, it is a connected action and must be included in the scope of analysis.  2) Mitigation Sites. To mitigate for loss of wetland habitat during construction, JCEP proposes to conduct wetland mitigation at the Kentuck Slough, West Bridge, and West Jordan Cove wetland sites. Mitigation is a connected action and must be included in the scope of analysis.

SA1-34

SA1-35

**SA1 Continued, page 21 of 241**

SA1-34 Comment noted.

SA1-35 These facilities are discussed in Chapter 2. See section 2.1.1.12 for wetland mitigation and 2.1.1.14 for the workers camp, Non-jurisdictional facilities are discussed in section 2.2.

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3	Section 1.4.1, P. 1-15; Section 1.4.4, Pgs. 1-20 through 1-22.	FERC incorrectly claims it is prevented from considering actions beyond its jurisdiction. 40 CFR 1502.14(c) requires lead agencies to "include reasonable alternatives not within the jurisdiction of the lead agency".	FERC must consider all direct, cumulative, and similar actions which are reasonably foreseeable associated with the proposed action. FERC must also weigh the environmental benefits and consequences of the proposed action against all reasonable alternatives regardless of whether the lead agency has jurisdiction over their implementation.	SA1-36
4	Section 1.3, P. 1-13; footnote 15.	FERC must include an analysis of effects of all actions which are reasonably foreseeable consequences resulting from the proposed action.	In February 2014 Jordan Cove received a 25-year license from Canada's National Energy Board to export up to 1.55 billion cubic feet per day (Bcf/d) of natural gas. The pipeline capacity is 0.9 Bcf/d. The DEIS states: "Jordan Cove would like the option of being able to expand its terminal facilities in the future". The expectation of increasing the capacity of the project is a reasonably foreseeable similar action under 40 CFR 1508.25(a)(3). The impacts of this expansion must be analyzed within the context of the proposed action.	SA1-37
5	Executive Summary, P. ES-2; Section 2.1.1.3; Section 1.3, p.1-13; Section 3.3.2.2, P. 3-15.	The DEIS describes in the Proposed Action (p.ES-2) a "slip, tug boat berth, and LNG vessel berth" with the slip being designed to accommodate deep draft cargo vessels unrelated to LNG export.  And in the DEIS project description in 2.1.1.3: "The terminal slip would contain an LNG berth on the east side, and a berth for tugboats and escort ships on the north side."  Nothing in the DEIS indicates that the slip is necessary for the proposed LNG export terminal facility.	If JCEP will utilize the entirety of the International Port of Coos Bay's proposed Oregon Gateway Marine Terminal Project for its LNG export terminal facility, then the DEIS needs to analyze the <i>direct, indirect and cumulative</i> impacts associated with the use of the entirety of that Oregon Gateway Marine Terminal Project.  The DEIS includes as part of the proposed project a large marine slip that appears to be designed to accommodate three separate berths: one for the LNG tankers, a second for support vessels, and a third for deep-draft cargo vessels, but the DEIS fails to analyze the direct and indirect impacts associated with use of the berth by such cargo vessels. Nor does the DEIS identify how the cargo vessels are associated with planned LNG export. If the proposed action includes a slip large enough to accommodate cargo vessels, then the DEIS should disclose and analyze the direct and indirect impacts of accommodating deep-draft cargo vessels in that marine slip and associated operations.	SA1-38

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- SA1-36 Alternatives are considered in Chapter 3, see the evaluation criteria in that section. Also see section 4.14 for cumulative effects. The scope of that analysis is discussed in section 4.14 2.3.
- SA1-37 Expanding the capacity of the terminal would require a new application to FERC and a new NEPA analysis. At this point, it is not a foreseeable action.
- SA1-38 The proposed use of the west side of the slip has evolved from the original concept. The proposed action under this NEPA analysis includes a single-use slip and access channel that solely supports LNG operations. The 800-foot slip width would be needed in order to be able to move an LNG vessel off of the LNG berth on the east side of the slip in the event of an incident within the LNG upland facilities that might threaten the safety of the LNG vessel at berth. Having the 800 foot slip width provides the flexibility needed for tugs to move the LNG vessel away from a hazard at the terminal or at the LNG loading dock to the relative safety of the west side of the slip. All references to a multi-purpose facility, mixed-use facility and/or alternative use in the DEIS, appendices and other supporting documents have been deleted from the FEIS.

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			If, however, in the alternative JCEP decides to utilize only a portion of the Oregon Gateway Marine Terminal Project for its LNG export terminal facility (LNG berth and berth for support vessels) then the DEIS should propose and analyze a slip that is sized to accommodate the LNG tankers and support vessels only, i.e., an alternative with a smaller terminal design and less significant impacts for the decision-makers and the public to evaluate.	SA1-38 Cont'd
6	Section 4.12.1.4, P. 4-894	The DEIS estimates Greenhouse Gas Emissions (GHGs) from construction and operation using outdated global warming potential (GWP) values. FERC uses data from the IPCC Second Assessment Report (AR2) published in 1995 to support its analysis. The IPCC released its Fifth Assessment Report (AR5) between September 2013 and February 2014 which presents updated and currently accepted GWP values for a range of time horizons.	The 100-year GWP horizon for methane is revised upwards from 21 to 35 from the IPCC AR2 to AR5 reports, an increase of more than 50%. GWPs reflect the relative warming potential of various gases normalized to a standard value of 1 for carbon dioxide. AR2 was prepared in the mid-1990s when climate change was an emerging science. It is reasonable to conclude that recent GWP data reflect an advanced understanding of global warming potential. FERC should adopt GWP values from the IPCC AR5 report in developing GHG emission estimates from construction and operation. These estimates should further be used to evaluate both direct and cumulative effects of project GHG emissions to adhere to the Council on Environmental Quality guidance released on December 18, 2014.	SA1-39
7	Section 4.1.3.5, Pgs. 4-68 to 4-154	Completion of the pipeline project will require amendments to Rogue, Umpqua, and Winema National Forest Land and Resource Management Plans (LRMPs). JCEP seeks amendments to these plans to allow work in restricted riparian corridors, removal of effective shade on perennial streams, and the creation of detrimental soil conditions in riparian areas. Impacts identified by JCEP conflict with key Aquatic Conservation Strategy (ACS) objectives related to water quality, riparian habitats, and sediment regimes. JCEP has	The Northwest Forest Plan (NWFP) Standard and Guideline WR-3 stipulates that mitigation cannot be used as a substitute for preventing habitat degradation. The DEIS must consider all reasonable alternatives which reduce or eliminate aquatic impacts before considering amendments to existing management plans to avoid conflicts with ACS objectives. ODEQ will conduct its CWA Section 401 evaluation based on finalized revisions to LRMPs adopted by the National Forest Service rather than mitigation measures proposed by the proponent.	SA1-40

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SA1-39 This information has been updated in the FEIS

SA1-40 The BLM and Forest Service have not proposed compensatory mitigation as a substitute for preventing habitat degradation. The compensatory mitigation plans address unavoidable adverse impacts of the proposed pipeline and have been designed to meet objectives in the BLM and USFS LMPs. The steps the BLM and Forest Service have taken to avoid or reduce impacts on public lands is documented in chapters 2 and 3 of the DEIS. The design features and project requirements are described in the plans of development submitted by Pacific Connector in their 2013 application. The compensatory mitigation plans included in section 2.1.4 of the DEIS have been developed and proposed by the BLM and Forest Service, not the applicant. These actions would be included as requirements in the ROW grant and should be considered as part of the proposed action. It is also important to note that the BLM and Forest Service have not proposed any amendments to the ACS for the PCGP project. Consistency with the ACS is addressed in Section 4.1.3.5 and Appendix J of the DEIS.

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		proposed mitigation measures to reduce the project impacts, ensure continued watershed function, and compliance with ACS objectives.		SA1-40 Cont'd
8	Section 4.4.2.2, P. 4-400	Pacific Connector modeled the thermal effects of removing riparian shade within a 75-foot construction corridor at 13 representative stream crossings. The maximum temperature rise identified in the modeling effort was 0.3°C. From this information, the DEIS concludes that "construction and operation of the pipeline would have no discernible effect on stream temperature."	This analysis is not sufficient to determine compliance with Oregon's temperature standard. FERC must consider the cumulative thermal impact resulting from shade loss at all stream crossings within each watershed. The failure of the DEIS to disclose and analyze ODEQ's cumulative effect analysis is a deficiency of this EIS.	SA1-41
9	Section 4.4.2.1 P. 4-365 First full paragraph	The DEIS states "A spill or leak of fuel or oil into Coos Bay during LNG vessel transit is also unlikely because of vessel design and on-board spill kits." While there may be measures in place to prevent or mitigate spills shipboard, the consequence of a major fuel spill from an LNG could be catastrophic for the environment and local economy Coos Bay.	ODEQ recommends acknowledging that these ships often carry millions of gallons of fuel and that a release of fuel within Coos Bay or near shore areas could present significant adverse environmental impacts. ODEQ also recommends discussing the requirement under Oregon Revised Statute 468B.300. – ORS 456B.500 for each vessel to have an ODEQ-approved oil spill contingency plan specific to Coos Bay. The plans will include pre-existing Geographic Response Plans (GRPs) that can be employed in the case of a large spill.	SA1-42
10	Section 4.12 Air Quality and Noise. P. 4-874	The DEIS groups noise issues with Air Quality. ODEQ is responsible for permitting stationary sources of air pollution, and enforcing those permit conditions. At present, the Oregon legislature has removed ODEQ's funding to implement and enforce state laws related to noise; however, the rules remain effective.	Compliance with the noise rules is required, and this DEIS must disclose the noise impacts of the proposed action. The Energy Facility Siting Council (EFSC), under the Department of Energy, is authorized to approve the siting of large energy facilities in the state. EFSC staff review applications to ensure that proposed facilities meet the state noise regulations. Also, there may be local noise ordinance that need to be followed.	SA1-43
11	Section 4.12 New Source Performance Standards Permit Requirements	The list of New Source Performance Standards (NSPS) that apply to the source as listed on Page 4-887 omits NSPS Subpart OOOO (Standards of Performance for Crude Oil and	Include NSPS Subpart OOOO in the list of applicable requirements, and explain how the source will comply with the requirements.	SA1-44

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- SA1-41 Information on stream crossings and riparian vegetation removed on a basin basis has been added to the analysis. Intuitively, removing 75 feet of riparian vegetation at several crossing points per watershed, when considered in terms of a watershed that includes tens of thousands of acres, would have an extremely small effect on water temperature at the watershed level. Also, it is worth noting that while there are approximately 234 streams crossed by the pipeline, approximately 137 of these are either Intermittent or ephemeral streams. Tree removal on ephemeral streams would be very unlikely to affect the water temperature since these streams only flow during rainstorms. Since most intermittent streams are only running water in the fall, winter, and/or spring, tree removal would have little effect on stream temperature.
- SA1-42 This information has been added to the FEIS. The need for a separate Oil Spill Contingency Plan in accordance with Oregon Revised Statute 468B.300-ORS 456B.500 has been recognized by Jordan Cove in their Resource Report 11.
- SA1-43 The DEIS does disclose the noise impacts of the proposed project, it also notes local noise standards, as well as State standards. See section 4.12.2.3. In particular, see table 4.12.2.4-1 and other tables in that section.
- SA1-44 Subpart OOOO does not apply. The units affected by Subpart OOOO are predominantly upstream of the natural gas transmission and storage segment; the sole exception to this is storage vessels for crude oil, condensate, intermediate hydrocarbon liquids, or produced water that has the potential to emit at least 6 tons per year of volatile organic compounds (and the project does not have such storage vessels).

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	P. 4-879	Natural Gas Production, Transmission and Distribution.		SA1-44 Cont'd
12	Table 4.12.1.4-2 Greenhouse gas emissions. P. 4-895	The GHG emissions in the table from the Jordan Cove location are approximately 10% lower than the GHG emissions requested in the Air Contaminant Discharge Permit application submitted to ODEQ.	The applicant should be required to update the GHG emissions in Table 4. 12.1.4-2. to accurately reflect the proposed emissions from the facility.	SA1-45
13	Section 4.12.1.2 NSR/PSD Preconstruction Permit Requirements P. 4-887	The Pacific Connector would be required to submit a Prevention of Significant Deterioration permit application because the Klamath Compressor Station has the potential to exceed the threshold of 100,000 TPY of CO2 equivalents.	The temporary GHG Rules currently in effect state a source is not subject to New Source Review and Best Available Control Technology requirements based on GHG emissions alone. It is unknown if this rule will be adopted permanently. The facility should be required to comply with the final rules as adopted.	SA1-46
14	Section 4.12.1.2 NSR/PSD Preconstruction Permit Requirements P. 4-887	The NOx emissions from the Klamath compressor station would be subject BACT because of GHG emissions.	Green House Gas (GHG) Rules currently in effect state a source is not subject to New Source Review and Best Available Control Technology (BACT) requirements based on GHG emissions alone. It is unknown if this rule will be adopted permanently. The facility should be required to comply with the final rules as adopted.	SA1-47
15	Section 4.12.1.2 NSR/PSD Preconstruction Permit Requirements P. 4-887	Second paragraph of this section: The reference to Table 4.12.1.2-2 (In the construction section below) does not make sense. Table 4.12.1.2-2 can be seen on the bottom of page 4-889. Maybe they meant to reference Table 4.12.1.2-3 on the bottom of page 4-890. If so... See temporary GHG rules for resolution.	Correct the error. Secondary emissions are not counted towards the federal major source determination. See definitions of "federal major source" and "secondary emissions" contained in OAR 340-200-0020. Since the source is not a federal major source, the Prevention of Significant Deterioration (PSD) requirements contained in OAR 340-224-0070 would not apply to the Klamath Compressor Station.	SA1-48
16	Section 4.12.1.2 Operation Air Quality Impacts and Mitigation P. 4-891	Appears that an AERSCREEN assessment may have been performed for the Klamath Compressor Station.	The DEIS should require the facility to submit the AERSCREEN assessment to ODEQ for review and approval. The ODEQ Air Quality modeling reviewer must review the analysis and results before ODEQ's Air Quality Program can accept the results as acceptable/reliable.	SA1-49
17	P. ES-6, and P. 4-302	ODEQ issued Weyerhaeuser a "no further action" determination, but included	Correct the DEIS text to reflect the site status as having a "partial no further action" determination, and reference that there are	SA1-50

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- SA1-45 The difference is due to the fact that the EIS table shows emissions in units of metric tonnes (which are the units used by both US EPA and the international community for GHG reporting) whereas the ACDP application shows emissions in units of English (short) tons, which is the convention for air permits. A metric tonne is approximately 10% more than an English (short) ton.
- SA1-46 Comment noted. As noted in section 1.5.1, the applicant would be required to comply with all State permitting requirements.
- SA1-47 Comment noted. As noted in section 1.5.1, the applicant would be required to comply with all State permitting requirements.
- SA1-48 The text was corrected as noted in this comment.
- SA1-49 The facility will need to submit their assessments to ODEQ for review and approval to get their air permit; there is no need for the EIS to require this.
- SA1-50 This information has been corrected.

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		conditions that certain wastes be managed appropriately. As a result, our Environmental Cleanup Site Information database lists the Ingram Yard and Mill site as having "partial no further action" determinations.	hazardous and solid wastes at both locations that need to be managed appropriately if disturbed.	SA1-50 Core9
18.	P. ES-7; also applies to Sections 2.1.1.10 and 4.4.1.1.	The Coos Bay-North Bend Water Board (CBNBWB) has 18 groundwater wells located within the Oregon Dunes National Recreation Area (ODNRA) to the north of the LNG terminal. There is a possibility that the water withdrawn from these wells for this project could dry up wetlands or lower water levels in nearby shallow dunal lakes.	The question of whether well field pumping could affect nearby waters of the state was evaluated in a memo from CH2M HILL to the CBNBWB in 1996. The DEIS should summarize the results of that investigation, which concludes that lake levels would not be affected. (CH2M HILL, 1995. Sand Dune Aquifer Groundwater Availability Study. Referenced in Livesay, D., 2005, Jordan Cove Energy Project, Groundwater Review, Groundwater Solutions, Inc., Portland, attached as Appendix E.2 to Resource Report 2 filed with Jordan Cove's May 2013 application to the FERC.	SA1-51
19.	Table 4.3.2.3-2, P. 4-328	"Near MP 8.6, Part of Georgia Pacific Coos Bay."	Correct error. Site ID # 3408 belongs to the former Glenbrook Nickel cleanup site (now owned by Oregon Resources Corporation), not Georgia Pacific – Coos Bay.	SA1-52
20.	Page 4-302	The first paragraph references ODEQ (2002) twice. This refers to the background metals memo, not the risk-based concentrations table.	Correct citation to ODEQ 2012. Risk-Based Concentrations for Individual Chemicals, Revision: June 7, 2012. Website: <a href="http://www.deq.state.or.us/lq/pubs/docs/RBDMTable.pdf">http://www.deq.state.or.us/lq/pubs/docs/RBDMTable.pdf</a>	SA1-53
21.	Table 4.4.3.1-1, P. 4-308	Footnote b of the table incorrectly states: "These are jurisdictional wetlands but do not require mitigation as these former mill waste treatment areas under an ODEQ Closure plan."	Correct error. The closure plan does not exempt mitigation requirements, but the settling basins are covered under an NPDES permit, which does exempt Wetlands F and G. Correct also the footnote to state: "These are jurisdictional wetlands but do not require mitigation as these former mill waste treatment areas are under an ODEQ NPDES permit."	SA1-54
21.	Appendix U	The reference section is missing a citation for ODEQ's risk-based concentration table.	Add the following citation to Appendix U: ODEQ 2012. Risk-Based Concentrations for Individual Chemicals, Revision: June 7, 2012. Website: <a href="http://www.deq.state.or.us/lq/pubs/docs/RBDMTable.pdf">http://www.deq.state.or.us/lq/pubs/docs/RBDMTable.pdf</a>	SA1-55

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- SA1-51 Clarification has been added to the FEIS that the well field is managed though conditions outlined in the Forest Service Special Permit. Conditions in the permit are protective of aquatic and terrestrial ecosystems located in the ODNRA (CBNBWB 2009).
- SA1-52 This information has been added to the FEIS.
- SA1-53 This has been corrected.
- SA1-54 This has been corrected. Note, this is on page 4-408, not 4-308.
- SA1-55 This has been added.

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22	General Comment	Potential discharges of wastewater to water quality limited streams.	Identify that there is insufficient information at this time to conclusively determine whether wastewater from the proposed project will contribute to exceedances of state water quality standards. Identify that this determination will be made through ODEQ permitting processes and may result in additional requirements not currently recommended by FERC.	SA1-56
23	P. 4-359, Surface Water Quality	Only Category 5 listed waters.	Correct omission and identify that category 4 listed waters should also be included from the 303(d) List.	SA1-57
24	Section 1.5.1.7; Table 1.5.1-1	Water Quality Permitting Omitted	Correct omission. The section only references CWA requirements related to 404 permitting and 401 certification. There is no mention of applicable NPDES and WPCF permitting requirements related to construction stormwater, industrial stormwater, hydrostatic test water, trench and construction dewatering water, or process wastewater.  <u>Table 1.5.1-1</u> Correct omission. The sections covering ODEQ water quality permitting do not mention the existing individual NPDES permit at the location proposed for the Jordan Cove industrial treatment facility. Discharge of any wastewater not currently allowed by this permit from new facilities cannot be authorized until this permit is revised.	SA1-58
25	General Comment; P. 2-1-1; P.4-571	Wastewater associated with hydrostatic test water and the NPDES General Storm water Permit (1200-C)	Correct error: The discharge of hydrostatic test water from the storage tanks at the Jordan Cove site and the pipeline would not be covered by registration to NPDES general permit #1200-C. While this general permit does allow for some types of non-stormwater discharges, hydrostatic test water of this nature is not expressly allowed. If hydrostatic test water is to be discharged to waters of the state, WPCF or NPDES individual permits would be required. The maps provided are inadequate to identify each of the discharge points. This comment also applies to trench dewatering water.  This DEIS should recommend that discharge rates of hydrostatic test waters should be	SA1-59

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- SA1-56 It is not clear what wastewater the comment refers to. If this refers to the LNG terminal, see the above response.
- SA1-57 Category 4 and 5 listings are included as water quality limited waters on page 4-372 of the DEIS and listed in Table 4.4.2.2-3.
- SA1-58 The section of this table related to the ODEQ already contains a disclosure of these permit requirements and current status of the permit application. If the State has more information on this process or the current status, it can provide this information to the FERC. Note that there are no statements in the EIS that remove or reduce the applicants' requirements and obligations to the State or the State permit process. The applicant will be required to comply with State regulations and permit requirements.
- SA1-59 Statement has been corrected in the FEIS.

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			<p>regulated and energy dissipation devices used to prevent upland area erosion, streambed scour, suspension of sediments, or excessive stream flow.</p> <p><u>P. 2-1-1:</u> Correct error and omission. The paragraph at the top of the page states that no biocides or chemicals would be added to the hydrostatic test water. It should be noted that the water from CBNBWB distribution system contains residual chlorine.</p> <p><u>P. 4-571:</u> Correct Error: The DEIS states that it is proposed that the hydrostatic test water will be tested for NPDES permit requirements and that treatment would be provided if required. The proposed discharge is not covered by the existing Jordan Cove NPDES permit. Additional data is needed to characterize the proposed discharge to determine if it can be permitted and, if it can, the existing permit will need to be revised. This process will develop the effluent limitations and required treatment procedures.</p>	SA1-59 Cont'd
26	Section 1.5.1.7	Coastal Zone Management Act (CZMA)	Clarify that the requirements of the CZMA are applicable to NPDES individual permits and must be included in the NPDES individual permit for the Jordan Cove industrial wastewater treatment facility.	SA1-60
27	P. 2-20	Ocean outfall from industrial treatment facility	Correct error. The ocean outfall is not owned by the Coos Bay North Bend Water Board (CBNBWB). It is owned by Port of Coos Bay.	SA1-61
28	Section 2.4.1.1	Water and sewer capacity for work force housing facility	Confirm before finalizing EIS the ability of the City of North Bend to provide water and sewage service to work force housing facility.	SA1-62
29	Section 2.4.1.2	Concrete Batch Plant	A concrete batch plant may require ODEQ permitting under a NPDES General Permit (1200-A) or a WPCF General Permit (1000-A). All truck wash out areas/pits must be maintained on-site with no discharges to a waterbody.	SA1-63
30	P. 4-361	Wastewater Treatment Facilities	Clarify whether Jordan Cove wastewater sources are intended to be treated and discharged through the ocean outfall under the authority of the existing NPDES individual	SA1-64

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- SA1-60 Information is found in Section 1.4.4.8.
- SA1-61 Text has been corrected.
- SA1-62 Comment noted.
- SA1-63 Comment noted.
- SA1-64 Statement has been corrected in the FEIS.



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			permit. There will be a number of waste streams generated during construction and during plant operations, including – oily storm water runoff, power plant wastewater, and LNG wastewater. If these wastewater sources are intended to be treated and discharged through the ocean outfall under the authority of the individual NPDES permit, DEQ will need additional information regarding effluent quality and quantity and available treatment technology to determine permit limitations.	SA1-64 Correct
31	P. 2-32	Klamath Falls Compressor Station	Clarify uncertainty as to whether the compressor station would generate any process wastewater, non-process wastewater, or stormwater exposed to industrial activity.	SA1-65
32	P. 4-359	Surface Water Quality, Fecal Coliform	Correct error. The section states that fecal coliform contamination will not be a problem due to the fact that the wastewater and stormwater would be treated. The statement implies that such wastewater is proposed to be disinfected. The statement is also inconsistent with the statement cited above on page 4-571.	SA1-66
33	General Comment	On-Site Sewage System	Correct deficiency: The DEIS needs to disclose and analyze the proposal for an onsite sewage system and soil composition so as to sufficiently support its conclusions. For example, if the applicant chooses to use an onsite system for domestic waste, they will need a favorable soil site evaluation and other approvals. This is complicated because fill material will be used to elevate the site, and the soils may not be conducive for an on-site system. See OAR 340-071. This should all be discussed in the DEIS.	SA1-67
34	P. 4-365	Sanitary Wastes	Correct error. Sanitary wastes would not be hauled to a licensed disposal site. Such wastes would be hauled by a licensed hauler to a permitted treatment facility.	SA1-68
35	P. 4-796	Solid Waste Handling	Correct error. Solids waste from the housing facility would be handled by a private collection service under contract by the City of North Bend. The Coos Bay Public Works Department would not be performing this service.	SA1-69

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- SA1-65 The compressor station would not generate any process wastewater, non-process wastewater, or stormwater exposed to industrial activity. This has been clarified in the FEIS.
- SA1-66 Jordan Cove is not proposing an on-site sewage system; sewage would be processed through the City of North Bend's wastewater treatment system via a new sewer line. Statement is corrected in the FEIS.
- SA1-67 FEIS has been corrected. Jordan Cove is not proposing on-site sewage treatment. There would be a connection to the City of North Bend's sewer system and wastewater treatment.
- SA1-68 This has been corrected.
- SA1-69 This has been corrected.

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36	General Comment	As per the State's Anti-degradation Rule (Oregon Administrative Rule (OAR) 340-041-0004(7): "Water quality limited waters may not be further degraded except in accordance with section (9)(a)(B), (C) and (D) of this rule." In allowing new or increased discharged loads, the Commission or Department must make the following findings as per rule: (A) The new or increased discharged load will not cause water quality standards to be violated; (B) The action is necessary and benefits of the lowered water quality outweigh the environmental costs of the reduced water quality. (C) The new or increased discharged load will not unacceptably threaten or impair any recognized beneficial uses or adversely affect threatened or endangered species. (D) The new or increased discharged load may not be granted if the receiving stream is classified as being water quality limited under sub-section (a) of the definition of "Water Quality Limited" in OAR 340-041-0002. The applicant must demonstrate that these findings are supported in the DEIS.	Correct deficiency: The DEIS should fully analyze whether the project can comply with applicable Clean Water Act Antidegradation requirements as set out in 40 CFR 122.4(i), 40 CFR 131.12, OAR 340-041-0004, DEQ's Antidegradation Policy, Implementation Internal Management Directive for NPDES Permits and Section 401 Water Quality Certifications (March 2001), and EPA's August 8, 2013, Review of Oregon's Antidegradation Internal Management Directive. These antidegradation regulations, rules, and policies require, <i>inter alia</i> , maintaining and protecting existing instream uses, protecting and maintaining existing high quality waters unless certain state findings are made, and prohibitions on certain new point source discharges to water quality limited water bodies.
37	General – there is no mention of ODA SB1010 AWQMAP in the document	The proposed riparian activities would lessen stream side shade which would reduce the potential to reach TMDL identified shade targets on private lands supporting agricultural uses. See individual AWQMAPs for riparian management goals and requirements.	There should be a discussion about Oregon Department of Agriculture's (ODA) SB1010 Agricultural Water Quality Management Area Plans (AWQMAP) in the DEIS. AWQMAPs detail how lands under the jurisdiction of ODA will meet the total maximum daily load (TMDL) requirements.

SA1-70

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SA1-70 As stated on page 4-371 of the DEIS, compliance with Oregon water quality standards and applicable TMDLs would be addressed during the CWA Section 401 water quality certification processes prior to construction.

The NEPA analysis primarily assess effects to resources. Determination of whether the project would meet State water quality standards is not necessarily assessed. The State, when issuing permits, can designate the specific requirements to be met by the project actions including specific State regulations.

SA1-71 As stated on page 4-371 of the DEIS, compliance with Oregon water quality standards and applicable TMDLs would be addressed during the CWA Section 401 water quality certification processes prior to construction.

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		<a href="http://www.oregon.gov/ODA/programs/NaturalResources/Pages/AgWaterQuality.aspx">http://www.oregon.gov/ODA/programs/NaturalResources/Pages/AgWaterQuality.aspx</a>		SA1-71 Cont'd
38	General 5-JPA-DEQ- R26.	Associated with these disturbances to the streams and wetlands themselves, are significant impacts to riparian and wetland vegetation. For instance, most existing riparian trees along the pipeline route will be removed. Selective replanting is proposed except for areas within 15 feet over the center of the pipeline. Even so, temporal losses of wetland and water quality function will be experienced for 1-3 years for wetland shrubs and up to 20 years for trees in forested wetland areas and riparian areas. This riparian vegetation, and in particular trees, is essential to providing water quality and habitat function. Such services as shade to reduce stream temperature, nutrient and pollutant uptake, stormwater treatment and infiltration, and bank stabilization through root structure will be lost in the impacted areas for years to decades. Although additional replanting lengths are proposed for Riparian Reserve areas, the sensitivity of all riparian areas is not accurately described in the DEIS.	Correct error. The DEIS isolates impacts from the pipeline alone to draw conclusions of minimal impact to the water quality benefits of shading, etc. The DEIS must account for cumulative effects occurring in the areas that will be impacted by pipeline construction.	SA1-72
39	Introduction P. 1-12 Environmental Setting	The DEIS has provided a detailed description of the environmental impacts in Section 4 of the DEIS. However, more emphasis has been placed on the federal lands than on the private lands. Also, there were no references to the ODEQ management plans for impacted streams.	Correct error and omission by incorporating action items for private lands within Section 4 of the DEIS. Indicate the specific remediation for stream channel and stream bank restoration procedures that will be followed. Provide details on water quality impaired waterbodies and how impacts will be mitigated on private and federal lands.	SA1-73

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SA1-72 The DEIS identifies the impacts to both upland, riparian, and wetland vegetation in sections 4.5.2.1. See the response to SIA-41 for effects on temperature. See table 4.14.3-1 for the cumulative effects of all foreseeable projects, including the pipeline, in each of the 19 watersheds crossed by the Project. In nearly all cases, all foreseeable projects effect too small a percent of the watershed to have a significant effect on water quality or habitat function.

SA1-73 As a result of the extensive watershed analysis conducted by the BLM and Forest Service, more information is available for federal lands than private lands. The information that the ODEQ has developed plans for impacted streams that includes streambank restoration procedures has been added. See FERC's Plan and Procedures, and the applicant's proposed changes in Appendix P.

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40	General Pipeline: P. 4-587	The pipeline route will cross 2.4 miles of estuarine habitat in Coos Bay and cross or pass near an additional 274 waterbodies, of which 113 are known or presumed to be inhabited by fish. In addition, 4 new stream crossings would occur along the 14 temporary or 13 permanent roads, 2 of which are known to have fish. Pipeline total miles have changed from 230 to 232 miles from the previous import DEIS and from 379 stream crossings to 274.	Correct omission: the DEIS should contain additional information regarding how impacts to streams located on or near private property will be addressed. The loss of stream bank vegetation could further degrade water quality.
41	Pipeline Turbidity Standard	The DEIS does not reference the turbidity standard (ORS 340-041-0036) or information pertaining to the turbidity standard. The DEIS mentions that turbidity within the stream will be impacted, but the water quality will be restored within 100 ft. downstream of the disturbance. As the rule states: <i>No more than a ten percent cumulative increase in natural stream turbidities may be allowed, as measured relative to a control point immediately upstream of the turbidity causing activity. However, limited duration activities necessary to address an emergency or to accommodate essential dredging, construction or other legitimate activities and which cause the standard to be exceeded may be authorized provided all practicable turbidity control techniques have been applied.</i>	Correct omission: The DEIS should identify how the pipeline is going to be constructed without increasing turbidity above 10% background for the public and decision-makers consideration. If mitigation standards are relied upon, then these should be disclosed and required as recommended measures.  From this information, ODEQ will evaluate proposed actions for impacts to water quality and that ODEQ may place conditions on activities, including the implementation of BMPs and/or monitoring requirements as warranted, to ensure compliance with state water quality standards including turbidity, which will become mandatory conditions in the project license.
42	Pipeline Revegetation Potential Pgs. 4-319 to 4-321	In the DEIS it is noted that all disturbed areas will be reseeded with native vegetation and will be seeded within 6 days of final grading of the right of way. The DEIS indicates that 163.8 miles	Because the streams located in Klamath County already have impacts from nutrients in sediment, the DEIS must be modified to provide addition detail regarding how the erosion controls will be utilized and managed to keep sediment from entering streams or

SA1-74

SA1-75

SA1-76

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SA1-74 Impacts to streams, on all lands, is discussed in section 4.4.2.2 and in 4.6.2.3. Also, see FERC's Plan and Procedures, and the applicant's proposed changes in Appendix P.

SA1-75 The role of the DEIS is to identify the environmental effects of the project. The DEIS discusses the likely effect of the Proposed Action on turbidity in section 4.4.2.2 and how turbidity would affect fish in section 4.6.2.3. The DEIS also states that the applicant would need to meet the requirements of the State permitting process.

SA1-76 As stated on page 2-105 and elsewhere, details about erosion control can be found in FERC's Plan, the POD, and in Pacific Connector's Erosion Control and Revegetation Plan. Effective erosion control is important along the entire route and would be required in all work areas.

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		or 70.6 percent of the pipeline length will consist of soils having poor revegetation potential. In addition, the DEIS indicates that revegetation measures will be needed in some areas including the use of fertilizers.	waterbodies impacted by the pipeline especially those areas with poor revegetation potential. Provide information also pertaining to the appropriate application rates of fertilizers and how nutrient runoff will be prevented.	SA1-76 Cont'd
43	Pipeline Cumulative Impacts Page 4-997 through 4-1024	The DEIS address' cumulative effects. However, the area that will be most impacted from cumulative effects/cumulative impacts is Coos Bay and tributaries discharging directly to Coos Bay. In addition to the dredging and trenching through the marshlands, additional impacts from vessels will continue to have a long-term effect on the bay.  Additional projects in the stream reach areas such as timber sales and other activities may impact the streams.  <i>Cumulative Effects: The incremental environmental impact or effect of the proposed action, together with impacts of past, present, and reasonably foreseeable future actions, regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time (40 CFR 1508.7).</i>	Because the coastal area of the pipeline and terminal facility will have long-term effects on water quality, the DEIS needs to elaborate and expand its discussion of these impacts and how proposed mitigation measures will mitigate adverse water quality impacts in the affected streams, estuaries, and aquatic habitat.  Impacts to habitat and water quality should be discussed in the context of the most sensitive beneficial use. For example, the beneficial use of drinking water is most sensitive to turbidity followed by turbidity affecting fish.  Correct deficiency: The long-term effects on Coos Bay are not adequately addressed. The cumulative effects of future channel deepening in Coos Bay and/or Port of Coos Bay plans for future development have not been adequately addressed in relation to habitat loss, sedimentation, and increased air deposition.  Long-term effects are discussed at length in relation to federal ownerships but are not adequately addressed in the context of private ownerships. Please provide additional detail regarding long-term effects on private lands.	SA1-77
44	Pipeline Streambank Protection and Restoration P. 4-391	The loss of stream bank vegetation and corresponding cold water refugia will need to be mitigated especially in areas that have temperature impairment. For example, crossing locations within Spencer Creek are in a critical area for spawning redband	The DEIS indicates that Large Woody Debris (LWD) will be used in locations where the pipeline crosses streams such as the Spencer Creek. This DEIS should identify that additional mitigation measures may be needed to encompass the loss of localized cold water sources and refugia in addition to the loss of spawning habitat that may occur as a result of stream crossings.	SA1-78

SA1-77

The DEIS discloses impacts to water quality in the bay from the LNG facilities in section 4.4.2.1 and from the pipeline in section 4.4.2.2. See the response to SIA-38 for other uses of the marine slip. See table 4.14.2.3-1 for foreseeable projects in the Coos Bay Frontal Pacific Ocean Watershed. Any proposal to deepen the existing channel to accommodate larger tankers would require a new application and a new NEPA analysis. It is not a foreseeable action. Note that the description of possible future use of the west side of the slip is no longer viable and has been deleted from the FEIS.

SA1-78

The Project includes extensive mitigation by the BLM and Forest Service on lands they manage (see table 2.1.4-1). In addition, the USFWS and NMFS would require additional mitigation for effects, especially on private land.

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		trout. This is the only cold water stream within this stretch of the Klamath River accessible to redband trout.		SA1-79 CWF3
45	Other Water Impacts, Pipeline Beneficial Uses Section 4.4.2-2	The DEIS has listed out the beneficial uses in Table 4.4.2.2-2, but has done little to summarize the impacts on beneficial uses.	Correct deficient discussion and analysis of impacts to beneficial uses. Under Section 303d of the Clean Water Act, beneficial uses for listed waterbodies are protected. This section must be expanded to identify and discuss impacts to beneficial uses as they are tied directly to water quality.	SA1-79
46	Other Water Impacts, Pipeline Restoration P. 4-391	Restoration has been mentioned throughout the document in regards to the various impacts related to stream crossings. Other stream crossings need to evaluate for sensitive streams.	In areas where the pipeline crosses sensitive streams such as the Spencer Creek alternative methods for stream crossings must be used to adequately reduce significant impacts to environment. These alternative methods could include horizontal boring or changing the route of the pipeline. Otherwise, the DEIS should identify and discuss other specific mitigation measures for water quality improvement projects that will appropriately protect water quality in these sensitive streams.	SA1-80
47	P. 4-124, P. 4-279, P. 4-240, P. 4-422 Mercury in eroded soils.	The Rogue River has been identified as impaired for mercury based on fish tissue analysis. The Rogue River (River Mile 0-216.8) is currently on the proposed 2012 303(d) list of impaired waters - Category 5 - water quality limited. A TMDL for mercury in the Rogue River will be developed in the future. Similar work in the Willamette basin has provided estimates that up to 47% of the mercury entering the Willamette River mainstem is coming from the erosion of native soils. Willamette Basin Mercury TMDL 2006 <a href="http://www.deq.state.or.us/wq/tmdls/docs/willamettebasin/willamette/chpt3mercury.pdf">http://www.deq.state.or.us/wq/tmdls/docs/willamettebasin/willamette/chpt3mercury.pdf</a> .  The DEIS addresses mercury in isolated areas of East Fork of Cow Creek and in the vicinity of	Correct error: Mercury impairments in the Rogue River (River Mile 0-216.8) must be acknowledged and the DEIS should recommend all necessary steps be taken to prevent erosion during and after construction are implemented including soils testing and implementing the measures outlined in the Contaminated Substances Discovery Plan where warranted.	SA1-81

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SA1-79 Information has been added to the FEIS.

The applicant will be required to meet all state and local permit requirements, which will include details on meeting water quality standards, including beneficial uses, on a site-by site basis.

The State's concern can be addressed through its own permitting process. The applicant would be required to meet state and federal laws and regulations, as stated in section 1.5.1 of the DEIS.

SA1-80 Stream crossing methods are discussed in section 4.4.2.2. Also, see FERC's Plan and Procedures, and the applicant's proposed changes in Appendix P. The State may require additional design and stream crossing methods and mitigation as part of their permitting process.

SA1-81 The information that the Rogue River (river mile 0-216.8) is currently on the proposed 2012 303(d) list of impaired waters - Category 5 - Water Quality Limited has been added to the discussion of mercury in section 4.1 and in the water quality discussion in section 4.4 of the FEIS. The Project includes effective erosion control measures. The State may require additional design and stream crossing methods and mitigation as part of their permitting process.

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SA1-82 The need for permits from ODFW and coordination with ODEQ for blasting in waters of the state have been noted in the FEIS. The effects of blasting on streams is addressed in sections 4.4.2.2 and 4.6.2.3 of the DEIS.

		<p>legacy mercury mines only. Given the high potential for mercury in soils within the Rogue Basin, mercury should be addressed across the proposed pipeline route in the context of erosion prevention/sediment control.</p> <p>The DEIS (page 4-610) states, "Overall, adverse effects to fish from mercury would not occur from Pacific Connector Pipeline Project actions despite occasional elevated mercury levels that naturally occur, because upslope soil erosion would be controlled and dry crossing methods would be used in East Fork Cow Creek." Construction sites must be stabilized after post construction to ensure no erosion occurs with wet weather as per the ECRP. If soils containing high levels of mercury are encountered in the Rogue Basin or other mercury containing areas including the East Fork Cow Creek drainage during Project construction, Pacific Connector must implement the measures outlined in its <i>Contaminated Substances Discovery Plan</i>.</p> <p><b>WILLAMETTE BASIN MERCURY TMDL, 2006</b>  <a href="http://www.deq.state.or.us/wq/tmdls/docs/willamettebasin/willamette/chpt3mercury.pdf">http://www.deq.state.or.us/wq/tmdls/docs/willamettebasin/willamette/chpt3mercury.pdf</a></p>	SA1-81 Cont'd	
48	<p>4.2.2.5 Pgs. 4-284 to 4-292</p> <p>Blasting</p>	<p>As per the DEIS the blasting potential was classified as high for about 100 miles of the proposed pipeline route. All blasting would be done by licensed contractors under the terms of applicable regulatory requirements. Although there is</p>	<p>Correct deficiency: The DEIS should identify the water quality impacts caused by blasting.</p> <p>The DEIS should also disclose permits from ODFW and coordination with ODEQ are required for blasting in waters of the state. The DEIS should discuss measures that will be applied to minimize and mitigate adverse</p>	SA1-82

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		a discussion of minimizing impacts to wetlands and water wells and springs in the text (pages 4-286-287). There is no discussion of minimizing the impacts to streambeds and stream water quality as a result of blasting. Blasting should be a last resort option which must be thoroughly analyzed regarding potential impacts and minimization options. Permits from ODFW and coordination with ODEQ are required for blasting in waters of the state.	impacts when blasting is determined to be the only option.	SA1-83 1-10000
49	P. 4-286, Impacts to private and public water wells.	Pacific Connector has offered to monitor private wells within 200 feet of the pipeline and any public water wells or water supply springs located within 400 feet of the pipeline construction right-of-way. ODEQ recommends that if surface and/or groundwater connectivity extends beyond 400 feet, that these private and public wells are monitored as well.	Correct deficiency: ODEQ recommends that if source water impacts have the potential to extend beyond the distances specified in the DEIS that these private and public wells are monitored as well.	SA1-84 601-001
50	P. 4-1024 Cumulative Effects; erosion and sedimentation.	Section 4-1024 states, "While the combined projects would result in an increase in erosion, given the small proportion of the landscape affected by these projects, erosion control BMPs, and restoration on federal lands, we conclude that the Project, when added to other projects in the region, would not result in significant cumulative effects on soils at the watershed level."	Correct error: The Project incorrectly seems to be comparing itself to the erosion/sediment anticipated from other planned projects in the area including the removal of four PacifiCorp dams along the Klamath River to determine that its impacts are not significant. This is a false comparison. Erosion and sedimentation impacts are examined on a site-by-site basis, and the DEIS should be modified to reflect that fact. The numeric turbidity standard (OAR 340-041-0036) and narrative sedimentation standard (ORS 468B.025(1)(a)) are not to be exceeded at any project site along the pipeline route.  No individual action can exceed water quality standards for sediment or turbidity.	SA1-84 601-001

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SA1-83 Comment noted.

SA1-84 The expected direct and indirect effects of the Project are disclosed in the resource sections of Chapter 4. This section is discussing cumulative effects, and therefore, it is appropriate to discuss the total expected erosion, past, present, and foreseeable.



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SA1-86

SA1-86 The analysis includes more than just the statement quoted in the comment. See the temperature modeling in this section and other studies used in the analysis. Additionally, the applicant has indicated they will do additional riparian plantings in the ratio of 1:1 for construction phase affects and 2:1 for permanent impacts to mitigate for any potential temperature increases as outlined in the DEQ letter of September 12, 2011 (see PCGP 2013 Thermal impact Assessment).

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53	P. 4-392 Dewatering Activities	Page 4-392 of the DEIS states that the rate of flow from dewatering pumps would be regulated to prevent erosion from runoff, and dewatering would be conducted in a manner designed to ensure that water is allowed to infiltrate into the ground rather than flow over the surface whenever possible. If trench dewatering does result in surface runoff, it would be conducted to ensure that turbid water does not reach a surface water of the state, and does not result in the deposition of sand, silt, and/or sediment.	Correct deficiency: If dewatering is likely to or is resulting in adverse impacts to waters of the state, the DEIS should identify, discuss and recommend that dewatering activity must be stopped to prevent a water quality violation as per the numeric turbidity standard (OAR 340-041-0036) and narrative sedimentation standard (ORS 468B.025(1)(a)). The dewatering process should be re-evaluated prior to commencement.
54	Erosion control plan references	There are multiple erosion control plan references in the document including: <ul style="list-style-type: none"> <li>• Erosion and Sediment Control Plan (ESCP),</li> <li>• Upland Erosion Control, Revegetation, and Maintenance Plan (Jordan Cove's Plan),</li> <li>• Wetland and Waterbody Construction and Mitigation Procedures (Jordan Cove's Procedures),</li> <li>• Stormwater Pollution Prevention Plan (SWPPP),</li> <li>• Erosion Control and Revegetation Plan (ECRP),</li> <li>• NPDES permit (1200-C),</li> <li>• NPDES Construction Stormwater Permit (CWA Section 402),</li> <li>• Construction general permit, and</li> <li>• ODOT's Erosion Control Manual</li> </ul> <p>There are also general references such as:</p> <ul style="list-style-type: none"> <li>• Temporary erosion control devices,</li> </ul>	Correct error: the erosion control plans are not currently consistently referenced throughout the document. These references should line up with the project it is referring to (Jordan Cove or Pacific Connector), as well as the time frame of the entire project (during construction or during operation).  The ESCP and the ECRP should also not conflict with each other.

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- SA1-87 FERC's Erosion Control and Sedimentation Plan includes measures to ensure that the turbid water would not reach the waters of the State, as noted in the DEIS.
- SA1-88 Comment noted. There are multiple plans; therefore, multiple names are used in the EIS.

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- SA1-89 FERC's Plan permits the use of straw bales and other measures.  
SA1-90 FERC's Plan lists several methods, the silt fences are discussed as one of the BMPs that may be used.  
SA1-91 Statement has been corrected in the FEIS.

		<ul style="list-style-type: none"> <li>Post-project monitoring,</li> <li>Stormwater management system, and</li> <li>'New' NPDES permit for stormwater collected from oily water collection sumps.</li> </ul> <p>Plus there are general references to different time frames such as:</p> <ul style="list-style-type: none"> <li>Operational phase,</li> <li>During construction and operation of the terminal, and</li> <li>Design, construction and operation.</li> </ul> <p>Generally, it appears for the Jordan Cove site, 'impacts on soils' are minimized by following the ESCP. And for the Pacific Connector, 'impacts on soils' are minimized using the ECRP.</p>		SA1-88 Cont'd
55	Erosion control general comment	Straw bales tend to pond water instead of filter water when they are used as sediment barrier devices.	The DEIS should recommend that the use of straw bales not be used as sediment barriers and that it require the use of another type of more effective sediment barrier.	SA1-89
56	Erosion control general comment	Silt fences are referenced throughout the document as one of the main BMPs to be used for sediment barriers. There are several other BMPs that may be less expensive, easier to haul to remote sites, and won't need to be completely removed and taken to a land fill for disposal.	Identify, discuss, and recommend other sediment barrier BMPs such as compost socks, straw wattles, or other re-usable devices.	SA1-90
57	Section 2.4, P. 2-93.	The DEIS states that Pacific Connector is committed to preparing a Stormwater Pollution Prevention Plan (SWPPP), and that this application would be made between one year and six months prior to the scheduled pipeline construction. ODEQ has multiple questions:	Correct error: This DEIS should reference the correct permits and use the correct names for those plans required by ODEQ's permits.	SA1-91

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- SA1-92 Statement has been corrected in the FEIS.  
SA1-93 Statement has been corrected in the FEIS.  
SA1-94 This information has been added to the FEIS.

		<ul style="list-style-type: none"><li>Is this permit meant to be ODEQ's NPDES 1200-C construction stormwater permit that includes the Erosion and Sediment Control Plan (ESCP), or the 1200-Z industrial stormwater permit that includes the Stormwater Pollution Control Plan (SWPCP)?</li><li>Jordan Cove site would not have a Standard Industrial Code (SIC code) that would require a 1200-Z permit.</li><li>However, the operation of a concrete batch plant that will be used in the construction of the LNG storage tanks would require a 1200-A permit. The 1200-A permit also has a SWPCP that is required to be submitted with the application.</li></ul>		SA1-91 Cont'd
58	Section 401 and Section 402 of the CWA general comment	The construction of a stormwater management system (Section 401) to gather runoff from impervious surfaces within the terminal is separate from the ESCP (Section 402) that protects stormwater during construction.	Correct error by clarifying between these two permits when referencing "stormwater runoff."	SA1-92
59	General references between the 1200-C's ESCP and the ECRP	In the DEIS, the 1200-C permit appears to only reference in relation to Jordan Cove's project. A 1200-C will also be needed for the Pacific Connector's project, or an individual NPDES erosion control permit. The ESCP should not conflict with the ECRP throughout the entire document.	Correct error: Properly reference which plans will be used for what projects (Jordan Cove or Pacific Connector) and time frames (construction or operation).	SA1-93
60	Table 1.5 1-1	The NPDES 1200-C and 1200-A general permits are missing from the table.	Correct error: Add these permits to the table.	SA1-94

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61	P. 4-612 Temperature Impacts	As requested in ODEQ's September 2011 letter ODEQ wants Pacific Connector to apply shade as a surrogate to temperature and identify long term impacts to shade and subsequently thermal loading. In the section entitled <i>Water Temperature</i> (page 4-612) several studies are quoted that found no significant temperature increases in cold water streams as a result of pipeline crossings and riparian removal as a result of pipeline construction (Brown et al. 2002, Blais and Simpson 1997, Tetra Tech 2013). While the assessment of measurable thermal impacts to stream segments as a result of specific crossing or action is informative it does not align with ODEQ's approach to addressing thermal impacts. TMDLs in the basins impacted by the Project use "other appropriate measures" (or surrogate measures as provided under EPA regulations (40 CFR 130.2(j))) in the form of percent effective shade to address heat load. Potential impacts to waters of the state by the removal of riparian vegetation should be quantified as loss of effective shade as measured on the streams surface. As per the TMDLs, attainment of the effective shade surrogate measure is equivalent to attainment of the nonpoint source heat load allocations. System potential vegetation is the typical shade target for streams with excess assimilative capacity. System potential vegetation represents the maximum possible effective	Correct error: Potential temperature impacts must be represented as changes in percent effective shade or actual thermal loads in Kcals/day. Near and long-term impacts must be quantified as requested in ODEQ's September 2011 letter.
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SA1-95

SA1-95      Comment noted. The purpose of the DEIS is to identify environmental impacts. The methods used in the DEIS do this. The State may require different measures and methods as part of its permit process.

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		<p>shade for a given location, assuming the vegetation is fully mature. Page 4-371 correctly states the targets set by the applicable TMDLs however that is not reflected elsewhere in the text.</p> <p><b>Note:</b> In general the Rogue, Klamath, and Umpqua Basins, temperature TMDLs and associated shade targets apply to all perennial and intermittent streams within the project area. Concerns about solar loading are not limited only to 303d listed segments, but are an issue for all perennial and intermittent streams in a TMDL basin. See individual TMDLs for more information: <a href="http://www.deq.state.or.us/wq/tmdls/tmdls.htm">http://www.deq.state.or.us/wq/tmdls/tmdls.htm</a></p>	SA1-95 Cont'd
62	P. 4-612 Stream Temperature Assessment	<p>Page 4-423 states that "During the drought conditions of 2013, modeled 7-day maximum stream temperature just below in the multiple East Fork Cow Creek crossings showed potential temperature increases of 1.2 °F to 4.2 °F under the rare drought flow conditions that occurred in 2013." ODEQ's position is if this would occur there would be a violation of water quality standards regardless of how quickly temperatures recover downstream. ODEQs TMDLs are based on achieving and maintaining site potential vegetation. As stated several pages later in the DEIS (4-425), mitigation ratios of 1:1 for construction-phase impacts or 2:1 for permanent impacts would be applied as outlined in ODEQ's September 2011 letter.</p>	SA1-96

SA1-96      Comment noted. The purpose of the DEIS is to identify environmental impacts. The methods used in the DEIS do this. The State may require different measures and methods as part of its permit process. Also, as noted in the comment, the DEIS already states that mitigation ratios of 1:1 for construction-phase impacts or 2:1 for permanent impacts would be applied as outlined in ODEQ's September 2011 letter.

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63	P. 4-425 Source Specific Implementati on Plan and Water Protection Plan	<p>There is only one mention of developing a Source Specific Implementation Plan (4-425) in the DEIS and once in the Joint Permit Application (JPA) (GeoEngineers 2013c) and no mention of a Water Protection Plan. There is no mention of Pacific Connector becoming a Nonpoint Source Designated Management Agency (DMA) in areas where TMDLs apply.</p> <p>In areas with existing TMDLs, Pacific Connector will be identified as a new nonpoint source. This will require the development of a Source Specific Implementation Plan to be submitted to ODEQ as per OAR 340-042-0080 (1-4).</p> <p>Where TMDL thermal load allocations have not yet been established, ODEQ's 401 Water Quality Certification will require the development of a Water Protection Plan, consistent with a Source Specific Implementation Plan, and a mitigation plan to address project impacts on thermal loading. This process needs to be acknowledged and addressed in the DEIS.</p>	<p>Correct error: DEIS must address Pacific Connector's role as a TMDL non-point source (NPS) and a need for an implementation plan or water protection plan development to address thermal impacts.</p>	SA1-97
64	P. 4-375	<p>"The sediment characterization assessment for the proposed alignment across Haynes Inlet (GeoEngineers 2010) concluded that contaminants of concern have not been identified near the project area within Coos Bay at concentrations greater than Sediment Evaluation Framework (SEF) screening levels and, therefore, it is</p>	<p>Identify that ODEQ will evaluate sediment chemistry data against appropriate sediment screening criteria.</p>	SA1-98

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SA1-97 This information has been added to the FEIS.

SA1-98 This statement has been added to the FEIS: The ODEQ would evaluate sediment chemistry data against the appropriate sediment screening criteria.

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		unlikely that the project activities would present unacceptable risks to the receptors of concern identified in the Conceptual Site Model."		
		The primary purpose of the SEF is to determine the suitability of sediment for <u>in-water disposal</u> (or beneficial reuse). As such the SEF is misapplied to the characterization of Haynes Inlet sediments. These sediments are not being evaluated for "disposal" but for excavation and replacement. The ecological effects to the proposed action should be assessed.		SA1-98 Confd
65	Geo-Engineers 2010 page 2	"Sediment is the primary media of concern identified in the Conceptual Site Model (CSM). The two exposure pathways for the sediment are: 1) sediment suspension, and 2) exposure of a new sediment surface."	Correct deficient analysis by determining sediment quality at more representative increments. There may be a potential to evaluate archived sediment samples to achieve this.	
		The compositing of 9 foot cores has not provided adequate information to characterized potential adverse impacts of the exposure of new sediments to ecological receptors.	Also, Dredge Material Management Units (DMMU) #1 and #2 have higher silt clays which may increase turbidity. DMMU #1 has higher ammonia levels which may affect beneficial uses in the Coos Bay.	SA1-99
66	Geo-Engineers 2010 page 1 Table 1	Dredge Material Management Units (DMMU) # 3 shows elevated total sulfides a magnitude higher than the other DMMU #2.	Correct error: Identify and evaluate elevated total sulfides potential adverse impacts and recommend the need for addition measures to control turbidity.	
		Re-suspension of these sediments has the potential to release acidity and contaminants (nutrients, trace metals)		SA1-100
67	P. 4-570	"...high oxygen demand sediment could be encountered during dredging. This could	Correct deficiency in analysis: The potential for ammonia toxicity to result from the resuspension of sediment in Haynes Inlet	SA1-101

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SA1-99 This is a comment on a GeoEngineers report, not on the DEIS.

SA1-100 This is a comment on a GeoEngineers report, not on the DEIS.

SA1-101 The overall area affected would be small and as noted natural flushing would reduce effect beyond the local area. Nightingale and Simenstad (2001) review of literature and summary document on effects of dredging and in it concluded that they could find no empirical data indicating reduction in oxygen was an issue of concern for estuarine and marine organism for dredging actions. Additionally permits issues could address requirements the applicant would need to meet relative to these parameters.



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		remove oxygen from the local water areas, putting local organisms at risk from insufficient oxygen. It then is stated that this effect would be temporary and tidal exchange would be expected to replenish oxygen. In most cases, where dredging and disposal occurs in open coastal waters, estuaries, and bays, localized removal of oxygen has little, if any, effect on aquatic organisms (Bray et al. 1997)."	should be evaluated. In addition, the effects of the resuspension of total organic carbon on water column and dissolved oxygen should be addressed.  Impacts should then be evaluated utilizing hydro-dynamic modeling.	SA1-101 Cont'd
68	P. ES 7-8, 5-8	"Pacific Connector would minimize impacts by following the measures outlined in its <i>Report on Preliminary Pipeline Study of the Haynes Inlet Water Route</i> , including keeping the bucket below the water level, following a turbidity monitoring plan, installing turbidity curtains, and fueling and maintaining equipment more than 150 feet from standing water."  Inconsistency – Page 2-112 states "The spoil would be set aside next to the trench, and turbidity curtains <u>may be</u> deployed."  Page 4-384 states turbidity curtains <u>may be deployed, as practicable</u> , in certain areas to protect sensitive resources such as oyster and eel grass beds.	Correct deficiency: Clarify whether a silt curtain will be deployed for the open cut in Haynes Inlet or not. The entire open cut takes place in a sensitive area.  Clarify where silt curtains will be deployed and what other measures will be taken if turbidity levels exceed standards and include such measures as recommended mitigation in Section 5.	SA1-102

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SA1-102 The text quoted in the comment provides the answer to the question: "turbidity curtains may be deployed, as practicable." The final determination of use would be stated in the permit issued for the project. Additionally the Coos County Planning Department for land use for File no. REM-11-01 Final decision (March 14, 2012) has a permit condition: "No 3 Turbidity" ---"The applicant shall employ turbidity curtains and/or other appropriate control measures to assure that turbidity does not exceed the levels specified in the Applicant's DEQ water quality permit." So the needed protections for turbidity in the Haynes Inlet would be implemented.

Regarding the portion of the comment related to frackouts: The risk of an inadvertent frackout is discussed in the section of the EIS referenced in the State's comment. Detailed contingency plans are in place should there be any problems which include agency engagement should issues arise (Drilling Fluid Contingency Plan for Horizontal Directional Drilling Operations). Also see response to CO34-55.

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69	P. 2-114,115, P. 4-386-7, 605	Inadvertent Release of Drilling Mud. Page 4-387 Any inadvertent release of drilling mud into a river would be monitored, and the appropriate agencies would be contacted, and approved corrective measures would be implemented.  Corrective measures should be developed now so their implementation is not delayed in the event of a frac-out.	Correct deficiency: Identify the likelihood and frequency of "frac-out" events, discuss how such events may be prevented, and recommend a detailed "frac" out monitoring plan.  FERC should also disclose in the DEIS and require the Applicant to develop Federal and State Agencies-approved corrective measures now rather than at the time of "frac" out. Federal and State agencies should be notified in the event of frac-out which may require additional measures be applied based upon site specific conditions.
70	P. ES 8  P. 2-21  P. 2-108  P. 2-108	"Pacific Connector would use about 75,000 gallons of water per day for dust suppression during construction, and approximately 62 million gallons of water would be required for the hydrostatic testing of the pipeline."  "During construction of the terminal, Jordan Cove would use a total of approximately 1.7 billion gallons of water for various activities, including hydrostatic testing."  "Fugitive dust may be created by pipeline construction activities. To control dust, Pacific Connector would use water trucks to spray the right-of-way. Water for dust control purposes would be obtained from commercial or municipal sources, and all appropriate approvals and/or permits would need to be obtained prior to withdrawal."  "If water for hydrostatic testing is acquired from surface water sources, Pacific Connector would obtain all necessary appropriations and withdrawal	Correct deficiency: Pacific Connector needs to place surface water withdrawals in the context of the amount of the withdrawal relative to total flows.  This evaluation should be conducted now before finalizing the DEIS so the source of hydrostatic testing water can be identified, analyzed, and modified as needed to appropriately mitigate significant water quality impacts.

SA1-102  
Cont'd

SA1-103

SA1-103 These passages are from Chapter 2. Chapter 2 describes the proposed project, not the effects of the Project. Project effects are discussed in Chapter 4. See section 4.4.2.2 for a discussion of water needed for hydrostatic testing. Note that the recommended evaluation can't be completed prior to finalizing the DEIS because the DEIS has already been published.

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	<p>permits prior to construction, including permits through the Oregon Water Resources Department (OWRD). As part of this process, OWRD would have the applications reviewed by ODEQ and ODFW to determine if there are concerns about the impact water withdrawals may have on water quality, and fish and wildlife and their habitats. Pacific Connector would negotiate water appropriations with private owners in the year prior to construction."</p> <p>ODEQ has concerns about the temperature impacts that may occur due to water withdrawals during low flow periods. ODEQ does not know enough about where these withdrawals will occur to evaluate these potential impacts.</p> <p>Three Oregon Administrative Rules state that no single activity is allowed to increase water temperature by more than 0.3 degrees Celsius (0.5 degree Fahrenheit) above the applicable criteria prior to the development of a Total Maximum Daily Load (TMDL). The Oregon Administrative Rules which place this limit on allowable stream warming are: Anti-degradation rules and policy, 340-041-0004(3)(c), Protecting Cold Water OAR340-41-0028 (11)(a), Implementation of the Temperature Criteria OAR340-41-0028 (12)(e)</p> <p>Should a TMDL be developed, no more than a 0.3 degree Celsius increase in water temperature above the applicable criteria is</p>	
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SA1-103  
Cont'd

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		allowed from all sources taken together at the maximum point of impact.	
71	Pgs. 4-366-377	<p>"Points of diversion (both public and private) beyond 150 feet of the construction work areas are not expected to be affected by the pipeline."</p> <p>The withdrawal of surface water for domestic uses is identified as a beneficial use and this use is sensitive to increases in turbidity and other contaminants in the surface water.</p>	<p>Correct deficiency: Recommend that Pacific Connector consult with all individual landowners with surface drinking water with active intakes in a similar manner as proposed for public water systems that have surface water intakes located within 3 miles downstream from a stream crossing. The DEIS proposes to provide written notification to the authorities of public surface water supply intakes at least one week prior to beginning in-water work. Individual surface water users are dependent on these water supplies which are sensitive to elevations in turbidity and other contaminants. (DEIS pg 4-376)</p>
72	P. 4-486	"Pacific Connector would prepare and submit to the ODF State Forester for approval a written plan describing how the pipeline would be in compliance with the Forest Practices Act (FPA) (OAR 629-605-0170), prior to harvesting activities."	<p>Correct error: The DEIS should identify that Pacific Connector needs to plan to work with the jurisdictional entity regarding any waivers of FPA WQ protections. (See Land Conversion Memo of Understanding)</p> <p>Plans which waive FPA WQ protections require ODEQ approval.</p>
73	P. 4-510	<p>"A 10-foot-wide corridor centered on the pipeline may be mowed annually and maintained in an herbaceous state. The remainder of the 30-foot-wide corridor within the permanent easement may be subject to vegetation clearing every three years."</p> <p>Oregon Administrative Rules (OAR) 340-042-0030(7) defines a "Source" as any process, practice, activity or resulting condition that causes or may cause pollution or the introduction of pollutants to a waterbody. As a source, responsible entities are required to develop a Source-Specific Implementation Plan (OAR 340-052-0030 (11)).</p>	<p>Correct deficiency: DEIS should identify a Water Quality Implementation Plan focusing on the identification of sensitive areas and management measures that will minimize adverse impacts to water quality throughout the lifetime of the project. Recommended measures might include tree height management rather than tree removal at stream crossings in the entire 30 foot wide corridor.</p> <p>The required elements of an implementation plan are described in OAR 340-042-0080.</p>

SA1-104

SA1-105

SA1-106

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- SA1-104 Many domestic water supply wells are not registered or identified in publicly available State databases, and therefore not all wells in the vicinity of the proposed pipeline have been identified. Most private landowners have not authorized access to their property; therefore, the applicant cannot identify where water sources are located on private lands. Pacific Connector would verify exact locations of water supply wells, springs, and seeps during easement negotiations with landowners.
- SA1-105 Comment noted. If, as stated in the DEIS, the pipeline would comply with the FPA there would be no need for waivers.
- SA1-106 Comment noted. This requirement is part of the State permitting process. The applicant is required to comply with State requirements.

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		ODEQ will include the pipeline corridor in existing TMDL nonpoint source (NPS) load allocations. Pacific Connector as a new NPS to an existing Total Maximum Daily Load (TMDL) and Water Quality Management Plan (WQMP) will require a public notice and public comment period relating only to the addition of the source.	
74	P. 4-591	<p>"Additionally, estuarine environments often have moderately elevated suspended sediment concentrations (i.e., greater than 15 mg/l) and they are very productive (Gregory et al. 1993). As noted above, concentrations typically exceed this value (i.e., 17 mg/l) in Coos Bay in the winter (Moffatt and Nichols 2006a), so fish present in Coos Bay in the winter are commonly present in regions with natural concentrations exceeding this value."</p> <p>This statement about "typical" Total Suspended Solids (TSS) is unsupported. TSS was calculated based upon a formula derived from a turbidity TSS regression equation based on data from Washington State. ODEQ's LASAR database has TSS measurements which do not support this statement.</p>	<p>Correct error: TSS modeling was not calibrated upon TSS data. The model calibration might be tested using TSS data. In addition, the TSS turbidity relationship should be derived from paired TSS turbidity data from Coos Bay.</p> <p>The TSS modeling is not applicable as presented in the DEIS. Background TSS and turbidities vary based upon precipitation and elevated TSS, and turbidity are "typically" related to rainfall and runoff events.</p> <p>ODEQ will base compliance determinations on direct measurements of turbidity rather than through surrogate measures such as TSS. ODEQ will develop conditions to ensure that temporary increases in turbidity do not impair beneficial uses and the DEIS should identify and discuss that requirement.</p>
75	P. 4-458	"A standard fertilization rate of 200 pounds per acre bulk triple-16 fertilizer (16:16:16 - nitrogen, potassium, and phosphorus) would be used on all disturbed areas to be reseeded.	Correct deficiency: A rainfall index accounting for previous and predicted rainfall should be developed to guide the application of fertilizer and identified in the DEIS.
	P. 4-489	"except in wetlands"	The DEIS should recommend that fertilizing near intermittent stream channel should be avoided and setbacks identified.
		"and would not be applied	Correct deficiency: Explain how fertilizer

SA1-106  
Cont'd

SA1-107

SA1-108

SA1-107 Comment noted. This requirement is part of the State permitting process. The applicant is required to comply with State requirements.

SA1-108 The DEIS states that fertilizer would not be applied in wetlands or within 100 feet of a stream; therefore, there is no need to explain how the applicant would apply fertilizer within 100 feet of surface waters or what buffers would be required. There would be a 100-ft buffer.

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	P. 2-110  P. 4-320	<p>within at least 100 feet of streams" and "would not be applied during heavy rains or high wind conditions. It could be either broadcast, or incorporated in the slurry for hydroseeding."</p> <p>"Application of fertilizers would be avoided during heavy rain (0.3 inches/hour or greater) or when wind speed (25 mph or greater) could cause drift".</p> <p>Fertilizer should be applied at agronomic rates according to environmental conditions. The reference to refraining from application during heavy rains (0.3"/hour or greater) does not account for accumulative rainfall, saturation of soils, and the potential for runoff.</p>	<p>applications within 100' of surface water will be conducted to assure no nutrients will reach surface water.</p> <p>Identify conditions that will trigger the evaluation of a site specific buffers to protect water quality (e.g. steep slopes, etc) when applying fertilizers.</p>	SA1-108 Cont'd
76	P. 2-110	<p>"Fertilizer would not be used in wetlands, unless required by the land-managing agencies..."</p> <p>Use of fertilizer in wetlands could acutely or chronically degrade the wetlands or pollute the downstream waterway and affect T&amp;E species residing in the wetland or in the downstream environment.</p>	<p>The DEIS should recommend that fertilizer use in wetlands should be evaluated by the ODEQ, ODFW, ODA, NMFS and USFWS in addition to land managing agencies to support FERC's conclusion that significant impacts are reduced to less than significant levels.</p>	SA1-109
77	P. 2-131	<p>"Vegetation at aboveground facilities would be periodically maintained using mowing, cutting, trimming and the selective use of herbicides."</p> <p>Pesticide applicators must be in compliance with Oregon Department of Agriculture licensing requirements and ODEQ's Pesticide General Permit 2300A (<a href="http://www.deq.state.or.us/wq/wqpermit/genpermits.htm">http://www.deq.state.or.us/wq/wqpermit/genpermits.htm</a>)</p>	<p>The DEIS should identify, discuss and recommend that Jordan Cove and Pacific Connector must secure required licensing and permits for these actions.</p>	SA1-110

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SA1-109 Comment noted.

SA1-110 Comment noted. Section 1.5.1 states that the applicants must obtain all required permits.

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		should be secured if permit eligible activities are proposed.	
78	P. 4-239	<p>"Approximately 49 miles of road resurfacing, of which approximately 21 miles are within Riparian Reserves. Road surfacing reduces sediment by capping existing fine textured sediments in the running surface of a gravel road with coarser rock or by paving. Paving all but eliminates traffic-generated sediments."</p> <p>Impervious surfaces increase stormwater runoff.</p>	<p>Correct deficiency: The DEIS appears to suggest that resurfacing of roads is the preferred option; however, increasing paving/impervious surfaces increases stormwater runoff. Therefore, the DEIS fails to identify, discuss or appropriately recommend how increased stormwater runoff due to impervious surfaces on roads will be mitigated in an enforceable or sufficiently detailed manner.</p>
79	P. 4-403	<p>"Six of the 14 proposed new temporary access roads (TARs) would be located within 100 feet of a stream or ditch and there would be 4 new stream crossings (table 4.4.2.2-12)."</p>	<p>Correct deficiency: Identify and state road construction design criteria.</p> <p>State whether design criteria will differ on federal and private lands.</p>
	P. 4-844	<p>"Pacific Connector would need to construct 14 new TARs with a total length of approximately 12,448 feet (2.4 miles). Thirteen of these temporary roads would be located on non-federal land (table 4.10.2.1-1)."</p> <p>"Pacific Connector would need to construct 13 new permanent access roads (PARs) with a total length of approximately 5,003 feet (nearly 1 mile; see table 4.10.2.1-1). Nine of these permanent roads would be located on non-federal land. These new roads would provide access during construction as well as for operations and maintenance activities while the Pacific Connector pipeline is in service. "</p> <p>"Most of the new PARs would be located within Pacific</p>	<p>Evaluate the amount of thermal load increase from road construction and include these thermal units in thermal mitigation calculations.</p>

SA1-111

SA1-112

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- SA1-111 Dirt roads are compacted by use, compacted soil absorbs little rain water. Without hardened surfaces, storm water runs off road surfaces and carries fine sediments from the road surface with the water. Following surfacing, the water runs off the road with less sediment. Hardening road surfaces is a common method utilized by the Forest Service and BLM to reduce erosion. We are not aware of any evidence that this practice increases impacts to water quality, or that BMPs required by State and Federal authorities (depending on the ownership) to protect water quality would be less effective if the road surface is hardened than if it is not.
- SA1-112 Federal agencies have road standards which would have to be met. Roads on private lands are under State regulation. The applicant would be required to meet State and Federal laws and regulations, as stated in section 1.5.1 of the DEIS.

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		<p>Connector's permanent pipeline easement. Construction of these roads would permanently impact approximately 3 acres."</p> <p>Roads constructed within 200' of the stream have the potential to increase thermal loads.</p> <p>The NWFP identifies the riparian management areas as two tree heights. Recent work completed by the USFS (Temperature Sufficiency Analysis) determined that harvest in the secondary tree zone (the second tree height) could result in increases in stream temperatures primarily from the loss of angular canopy density. Impacts to riparian vegetation on federal and non-federal lands should include an assessment of the impacts of riparian removal to a distance of two tree heights.</p>		SA1-112 Cont'd
80	P. 4-1026	<p>The projects listed on table 4.14.2.3-1 include approximately 25 miles of new road construction and Page 4-1030 states "About 20 miles of new temporary road construction..."</p> <p>PARs and TARS total less than 4 miles in the comment above. Why does this reference 25 miles of new road?</p>	<p>Correct deficiency: Explain the differences in miles of new roads stated in the DEIS. Clearly state the miles of new road construction proposed discretely for private lands and federal ownerships.</p>	SA1-113
81	P. 4-271	<p>"Specialized trench backfill is utilized where pipelines cross landslides or fault zones where differential movement or shearing across the pipeline is expected. For steep slopes, trench breakers and water bars are utilized to minimize the potential for erosion or mass wasting of trench backfill. Section 11.0 of the ECRP provides special backfill and</p>	<p>Correct deficiency: Identify mechanism for the determination of pipeline related slope failures.</p> <p>Explain how slope failures and/or mass wasting events triggered by pipeline construction will be assessed and mitigated to prevent water quality impacts.</p>	SA1-114

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- SA1-113 Section 4.14 addresses cumulative effects. Table 4.14.2.3-1 includes "Recent, Current, or Proposed Actions..." In addition to approximately 20 miles of project-related road construction, there are roads associated with other foreseeable projects. There is no reason to think that cumulative miles of road construction would be the same as the number of miles proposed for the Project.
- SA1-114 As described on pages 4-270 and 4-289 of the DEIS, in addition to construction BMPs, Pacific Connector would perform regular monitoring to detect slope stability issues post-construction. Additional monitoring protocols would be developed at any identified areas of specific concern as discussed on page 4-271 of the DEIS. Detailed engineering designs and monitoring protocols for areas of slope stability concern would be developed prior to construction and submitted to the Secretary for review. Water quality mitigation for slope instability concerns is discussed in section 4.1 of the EIS.



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		<p>compaction criteria for restoring site grades on slopes greater than 3H:1V. Specifications include use of structural fill, benching slopes to receive fill, and compaction of fill in lifts."</p> <p>What will the mechanism be for determining whether a slope failure in proximity to a pipeline construction area is related to the pipeline?</p> <p>How will slope failures and/or mass wasting events triggered by pipeline construction be assessed and mitigated?</p>	SA1-114 Cont'd
82	P. 4-1027	<p>"Approximately 38 acres of wetlands would be impacted by construction of the Jordan Cove LNG Project. Jordan Cove would mitigate for impacts on freshwater wetlands through the creation of 4.5 acres of new wetlands at the West Bridge and West Jordan Cove sites, and estuarine wetlands affected by the Project would be mitigated through the creation of 43.6 acres of wetlands at the Kentuck Slough site".</p> <p>Both Isthmus and Kentuck Sloughs are water quality limited for dissolved oxygen. Mitigation activities in these area have the potential to increase total organic carbon (TOC) or biochemical oxygen demand (BOD) will need to determine the effects of this increased load on water column dissolved oxygen conditions. Dike breaching that allows marine waters to come in contact with high organic environment (pasture land) can result in increased loads of oxygen</p>	SA1-115

SA1-115 We will note this is a potential concern for the Kentuck slough in the EIS relative to dissolved oxygen. However, note that the details of how this issue would be addressed will be developed in the final plans that will be coordinated between the applicant, the Army Corps, and the State during the 404 and 401 permitting process. Presumably this would including details of insuring how the actions would meet State water quality standards including dissolved oxygen.

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		demanding substances.	
83	P. 5-30 and Appendix F	The mitigation measures identified in this section should be considered for applications to non-federal ownerships where mitigation is needed.	Although ODFW is correctly identified as the lead agency in this area, the DEIS should also recommend that ODEQ review the private lands mitigation plan when it becomes available.
84	P. 4-319 P. 4-333 P. 4-382	<p>"Waterbody crossings would be stabilized and temporary sediment barriers installed within 24 hours of completion of backfilling in accordance with Section V.C.2 of the FERC's <i>Procedures</i>. Pacific Connector would install erosion control fabric (such as jute or excelsior) on streambanks at the time of recontouring. The fabric would be anchored using staples or other appropriate devices. The erosion control fabric to be used on streambanks and steep slopes would be designed for the proposed use and would be approved by the EI, and authorized agency representative on federal lands."</p> <p>"Conversely, erosion control structures should be considered only as temporary expedients to hold the soil in place until vegetation can become established and stabilize streambanks and disturbed surfaces permanently (Forest Service 2013a)."</p> <p>"As a follow-up measure to help ensure crossing actions would not adversely affect stream bank and channel structure, Pacific Connector would monitor all stream crossings, regardless of risk, quarterly for 2 years after construction. Any adverse issues found during the monitoring with channel stability or habitat would be remediated. Additional</p>	<p>Correct deficiency: Explain how post construction bank failures will be mitigated? FERC should recommend that bank stability should be monitored until vegetation has been established and banks are fully stable. This may be longer than two years based on how quickly woody vegetation becomes established.</p>

SA1-116

SA1-117

SA1-116 This has been added to the FEIS.

SA1-117 FERC's Plan requires at least two years of monitoring and reporting. The State may add additional monitoring as part of its permitting process.

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		monitoring would occur periodically over a 10-year period with implementation of remediation as needed."		SA1-117 Cont'd
		How will bank stability be monitored until full stabilization is achieved?		
		How will bank failures be mitigated?		
85	P. 4-309, Table 4.3.2-2 and P. 4-332	Identifies areas with erodible soils and steep slopes	These areas represent high-risk areas for soil erosion and as such will require frequent monitoring of erosion controls. The DEIS should identify and discuss a separate monitoring plan specifically for these erosion high risk areas. Erosion controls are expected to need more maintenance in these areas than controls in other areas.	SA1-118
86	P. ES-7	"Jordan Cove's Report on Turbidity Due to Dredging included a model that predicted total suspended solids (TSS) could be expected to be at a maximum of 500 milligrams per liter (mg/l) at the immediate vicinity of a hydraulic cutterhead dredge, but would rapidly reduce to a maximum of 14 mg/l by a distance of 60 meters. Therefore, turbidity from dredging of the access channel would be temporary (lasting about 4 to 6 months during construction) and localized, minimizing impacts on the aquatic environment of the bay."	Correct deficiency: The potential to increase water column bacteria concentrations in Coos Bay should be evaluated. Shellfish harvesting is especially sensitive to increases in bacteria and potential pathogens.	SA1-119
		Fecal indicator bacteria can adhere to suspended particles in water which then settle causing an accumulation of bacteria in the bottom sediment (Davies et al., 1995). Numerous studies have found fecal indicator bacteria at greater concentrations in the sediment		

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SA1-118 Comment noted.

SA1-119 Increased turbidity during dredging will be temporary. Page 4-384 of the DEIS identifies that BMPs will be used to minimize turbidity, and water quality monitoring will be employed to meet ODEQ water quality criterion during construction. The applicant will be required to meet all State and local permit requirements which will include details on meeting turbidity issues and methods of minimization in Haynes Inlet and shellfish protection and monitoring.

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SA1-120 Compliance with existing laws and regulations is already required.

		than in the overlying water in rivers, estuaries and beaches (Stephenson and Rychert, 1982, Struck 1988, Obiri-Danso and Jones, 1999, Byappanahalli, et al. 2003, Whitman and Nevers, 2003). Concentrations in the sediment can range from 10 to 100 times greater than in the overlying water. Resuspension of bottom sediment has been shown to increase in fecal indicator bacteria concentrations in the water column. (Sherer et. al., 1988 and Le Fever and Lewis, 2003).	SA1-119 Cont'd
87	P. 4-610	<p>"A riparian strip at least 25 feet wide on private lands and 100 feet wide on federally managed lands, as measured from the edge of the waterbody, would be permanently revegetated."</p> <p>Vegetative buffers should be restored to widths equal or above pre disturbance conditions at each site to 200 feet from streams. Re-vegetation scenarios should be compliant with applicable regulatory mechanisms such as the Forest Practices Act, Oregon Department of Agriculture rules relating to agricultural lands, as well as those ordinances implemented by local jurisdictions.</p> <p>The NWFP identifies the riparian management areas as two tree heights. The USFS document, Northwest Forest Plan Temperature TMDL Implementation Strategies, 2004, determined that harvest in the secondary tree zone (the second tree height) could result in increases in stream</p>	SA1-120

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SA1-121 This information has been added to the FEIS.

		temperatures primarily from the loss of angular canopy density. Impacts to riparian vegetation on federal and non-federal lands should include an assessment of the impacts of riparian removal to a distance of two tree heights.		SA1-120 Cont'd
88	Grading and Clearing  (Section 2.4.2.1) and Revegetation  P. 2-109; P; 4-319	<p>These related sections state that Pacific Connector proposes to apply a standard fertilization rate of 200 pounds per acre bulk triple-16 fertilizer (16:16:16 - nitrogen, potassium and phosphorus) on all disturbed areas to be reseeded, except in wetlands and in federally-designated riparian reserves. The DEIS discusses fertilizer applications methods and the best management practices (BMPs) in riparian areas will be conducted in a manner that ensures that excess nutrients are not delivered to the waterbody(s).</p> <p>BMPs include: fertilizer would not be applied within at least 100 feet of streams; fertilizer storage outside of riparian reserves and away from streams; and fertilizer would not be applied during heavy rains or high wind conditions. Information about site preparation and timing indicates measures to prevent over-application and run-off.</p> <p>Previous comments have largely been addressed through the BMPs and other measures.</p> <p>However, the DEIS does not identify that specific BMPs, should be implemented, including source-specific TMDL</p>	<p>Correct deficiency: As a potential new nonpoint source of nutrients and/or oxygen demanding pollutants, Pacific Connector should clearly identify estimated total phosphorus loads to impaired waterbodies under reasonable maximum contribution scenarios.</p> <p>Pacific Connector should be required to conduct monitoring for nutrients (total phosphorus) at locations (revegetated areas at crossings and TEWAs) most likely to contribute run-off to these waterbodies as part of its license and Joint Removal/Fill Permit. The information provided will be used to determine whether Pacific Connector should be identified as a significant nutrient source and required to develop source-specific implementation plans for these two TMDLs under OAR 340-042-0080 (Implementing a Total Maximum Daily Load).</p>	SA1-121

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SA1-122 This information has been added to the FEIS.

		implementation plans, for water bodies with nutrient-related impairments. For the <u>South Umpqua River</u> , a detectable level of excess phosphorus fertilizer run-off from pipeline Revegetation would be a pollutant and violate the DO-pH TMDLs. For <u>Cow Creek</u> , phosphorus loading allocation is dependent on location and timing. See Umpqua Basin TMDL: Algae/Aquatic Weeds, Dissolved Oxygen & pH (DEQ October 2006): <a href="http://www.deq.state.or.us/WQ/TMDLs/docs/umpquabasin/umpqua/chpt4nut.pdf">http://www.deq.state.or.us/WQ/TMDLs/docs/umpquabasin/umpqua/chpt4nut.pdf</a>	
89	Pipeline -- general impacts on riparian vegetation. Various sections throughout DEIS	<p>The DEIS does not identify that source-specific TMDL implementation plans are required for water bodies with 303d impairments.</p> <p>In the case of the parameter temperature, longer-term or permanent removal of riparian vegetation in areas where TMDLs have been issued is incompatible with achieving shade targets in the TMDLs, associated Water Quality Management Plans, and DMA implementation plans for the TMDLs in the affected areas.</p> <p>These plans consistently identify preservation and restoration of site potential vegetation to provide shade and other functions in riparian zones in tributaries to address temperature, nutrients, bacteria, toxic pollutants, sedimentation, biological criteria, and other water quality parameters.</p>	<p>Correct deficiency: OAR 340-042-0080 (WQMP) requires submission of a TMDL implementation plan to ODEQ for review and approval. For geographic areas, and the associated waterbody-pollutant segments covered by temperature TMDLs, Pacific Connector will be identified as a "new source", and thus required to develop source-specific TMDL implementation plans.</p> <p>Specific riparian vegetation targets will be identified through the source-specific Implementation Plan.</p>

SA1-121  
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SA1-122

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90	<p>Mining (mercury)</p> <p>Section 4.2.2.1; P. 4-278</p>	<p>Galesville Reservoir is impaired (Category 5/303(d) listed) due to a fish consumption advisory resulting from elevated mercury levels in fish tissue. Significant land disturbing activity in this drainage could result in elevated delivery of mercury laden sediments to the reservoir increasing the probability of higher mercury levels in resident fish (as noted in the ecological risk screening). This potential source and transport of mercury via soil disturbance and erosion during construction should be carefully evaluated.</p> <p>ODEQ's data review for the 2012 Oregon WQ Assessment identified duplicate water samples at Station 34868 (City of Riddle PWS Intake, Cow Cr at RM 1.96) that exceed state screening criterion for mercury. The status for this record (18007) will likely be Category 3B: Potential concern. This data indicates that the assimilative capacity of Cow Creek for mercury has already been exceeded through natural and anthropogenic sources.</p> <p>The GeoEngineers Report (2007, 2009) indicates no sign of the mine was "observed" at the proposed alignment 400 feet west of the Red Cloud mercury mine. However, since mine tailings are often worked, distributed and then re-distributed by mine operations and subsequent activities, it would be prudent to conduct soil sampling in the corridor targeted for disturbance by construction of the pipeline, and</p>	<p>Correct deficiency: Pacific Connector should conduct soil sampling for mercury at the proposed alignment west of the Red Cloud mercury mine prior to construction of the pipeline in this segment and implement the measures outlined in the Contaminated Substances Discovery Plan where warranted.</p>
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		re-assess mercury levels prior to final route selection to ensure risk of mercury mobilization is minimized.  NOTE: the re-alignment moves further from the epicenter of mines to the east; may still be an erosion risk, but should reduce risk to Cow Creek (Galesville).		SA1-122 Cont'd
91	P. ES-5, Section 4.2.2.1 Surface and Bedrock Geology; P. 4-245, P. 4-262	Geotechnical & seismic analysis: DEIS states that "...evaluation of liquefaction potential is complex and depends on numerous site parameters, including soil grain size, soil density, age of soil deposit, depth and gradient of water table, site geometry, static stresses, and design accelerations."  We acknowledge that this type of analyses is a complex task, especially for a linear utility that crosses many different soil and geology types and multiple landforms and both public and private ownerships.  The information in the DEIS appears insufficient to determine whether the risk of soil liquefaction has been adequately assessed in the DEIS and supporting documents. An area of uncertainty is whether there are areas where construction of the pipeline would promote soil liquefaction under conditions where it would not normally occur (e.g., by destabilizing soil, adding loose fill material, creating conduits for water to saturate subsurface soils, or other mechanism).	Correct deficiency: The DEIS should identify whether there are areas where construction of the pipeline would promote soil liquefaction under conditions where it would not normally occur (e.g., by destabilizing soil, adding loose fill material, creating conduits for water to saturate subsurface soils, or other mechanism).	SA1-123
92	Operation and Maintenance of the Pipeline (P. 4-404); DEIS states the following	Operation and Maintenance of the Pipeline (P. 4-404): DEIS states the following	Correct deficiency: In the absence of a revised Riparian Protection Rule for timber harvest on private lands, the DEIS should	SA1-124

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SA1-123 Pipeline construction would not contribute to soil liquefaction because construction design and BMPs as described in the EIS and ECRP would ensure that appropriate backfill materials and compaction methods are used during trenching activities. In addition, surface drainage and subsurface drainage would be considered and appropriate measures (as described in the EIS), such as trench breakers and placement of impermeable liners over the ground surface to limit infiltration of precipitation - would be employed where necessary to ensure that the pipeline trench does not interrupt natural hydrological conditions during construction and operation of the Project.

SA1-124 Comment noted.



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<p>Pipeline P. 4-329; P. 404</p>	<p>"The operation of the new pipeline would not result in any adverse impacts to surface water use or quality. Associated pipeline facilities such as compressor stations and meter stations would be located outside of waterbodies to avoid impacts to surface waters. Vegetation maintenance would be limited adjacent to waterbodies to allow a riparian strip of at least 25 feet, as measured from the waterbody's MHWM."</p> <p>ODEQ disagrees with this conclusion on the following basis: Thermal impacts that exceed OAR 340-041-0028(11) <u>Protecting Cold Water</u> (PCW) criterion have been documented by ODF from harvest using FPA private forest RMAs for small and medium fish-bearing streams (Groom et al 2011; see Board of Forestry Rules analysis).</p> <p>At the September 2014 meeting, the Board of Forestry directed the Department of Forestry (ODF) to work in conjunction with Regional Forest Practices Committees and stakeholders to:</p> <ul style="list-style-type: none"> <li>• Continue analysis of a) Geographic Regions in western Oregon to which the rule should apply and b) to which stream segments the rule should apply; and</li> <li>• Develop prescriptions for a new Riparian Protection Rule.</li> </ul> <p>The 25 foot riparian management area (RMA) is not adequate to ensure thermal load</p>	<p>recommend that more stringent state forest Riparian standards* (for RMAs) be followed. * <i>Current Forest Management Plans (FMP) [ODF, 2010]</i> riparian buffers <a href="http://www.oregon.gov/odf/pages/state_forests/forest_management_plans.aspx">http://www.oregon.gov/odf/pages/state_forests/forest_management_plans.aspx</a></p> <p>Revise DEIS, and ECRP and other documents accordingly to reflect level of RMA protection needed to meet shade targets and protect cold water on private lands</p>
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SA1-125 Comment noted. The State may require additional monitoring as part of its permitting process.

		reduction and meet TDML thermal load reduction targets.	
93	4.4.2.2 Pacific Connector Pipeline  Turbidity P. 4-389  General Effects; Pgs. 4-596 - 597  TABLE 4.6.2.3-5; P. 4-606  Section 5.1.6 Wildlife and Aquatic Resources P. 5-13	<p>DEIS states "Pipeline crossings of surface waterbodies would cause some downstream turbidity and sedimentation."</p> <p>Turbidity levels upstream of an activity are generally used to establish the target turbidity value (downstream from an activity) and assess compliance with Oregon's turbidity standard (OAR 340-041-0036).</p> <p>For construction of stream crossings, we interpret turbidity to be caused primarily by generation and suspension and transport of fine sediment rather than organic matter. Establishing the target turbidity level and assessing compliance with that target depends on the individual water body conditions at the time of the activity so this task should be explicitly identified in the joint permit conditions (JPA) and 401 WQ certification.</p> <p>DEIS (Pgs. 4-597-598): General Effects: <i>Sediment stirred into the water column can be redeposited on downstream substrates, which could bury aquatic macroinvertebrates (an important food source for salmonids, and other fish in estuarine areas). Additionally, downstream fine particle sedimentation could affect spawning substrate habitat, spawning activities, eggs, larvae, and juvenile fish survival, as well as benthic community diversity and health (reviewed and compiled by Bash et al. 2001).</i></p>	<p>The DEIS does not sufficiently identify, discuss or recommend an appropriately robust monitoring plan that identifies the steps needed to (a) determine target turbidity values and monitor levels, and (b) assess post-construction, operational phase estimates of total suspended sediment or turbidity levels along the pipeline.</p>

SA1-125

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		<p><i>Model Estimates of Effects of Suspended Sediment (P. 4-604): Nearly all estimates were less than 10 mg/l TSS between 10 and 100 meters (33 and 328 feet, respectively) downstream from construction sites.</i></p> <p>For the <u>post-construction, operational phase</u>, no specific estimates of total suspended sediment or turbidity levels was provided. The DEIS assumes that full site stabilization will occur in disturbed areas. Follow-up with federal agencies for areas not meeting the ECRP, but no clear post-construction monitoring plan on private lands was identified.</p>	
94	<p>4.4.2.2 Pacific Connector Pipeline</p> <p>P. 4-389 (Turbidity)</p> <p>4.6.2.3 Pacific Connector Pipeline</p> <p>Pgs. 4-596 - 598 General Effects;</p> <p>TABLE 4.6.2.3-5; Turbidity and Sedimentation</p>	<p>The DEIS discusses several impacts of fine sediment suspension and subsequent deposition (Pgs. 4-597-598, on fish, and other stream biota, particularly benthic macro invertebrates)</p> <p>The DEIS does not address whether the pipeline construction activities and operation will achieve compliance with OAR 340-041-0011-Biocriteria and OAR 340-041-0007 Statewide Narrative Criteria (11): <i>The formation of appreciable bottom or sludge deposits or the formation of any organic or inorganic deposits deleterious to fish or other aquatic life or injurious to public health, recreation, or industry may not be allowed.</i></p> <p>Oregon's sedimentation and biocriteria standards are not explicitly linked to highly variable in-stream turbidity</p>	<p>Correct deficiency: The DEIS should more effectively address whether the pipeline construction will meet narrative state water quality standards, and if so, what mitigation measures will be needed to meet these standards.</p>

SA1-125  
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SA1-126

SA1-126 The NEPA analysis primarily assess effects to resources. Determination of whether the project would meet State water quality standards is not necessarily assessed. The State, when issuing permits, can designate the specific requirements to be met by the project actions including specific State regulations.

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SA1-127 Comment noted.

		levels but rather are associated with impacts on stream bottom habitat or aquatic life, respectively.  (NOTE: The ECRP was attached as Appendix 1B in Resource Report 1 of Pacific Connector's June 2013 application to the FERC, and included as Attachment 9 of Pacific Connector's Plan of Development (POD)).		SA1-126 Cont'd
95	Stream Temperature; Riparian shade targets 4.14.3 Cumulative Effects on Resources 4.14.3.4 Water Resources and Wetlands Table 4.14.2.3-1; surface water P. 4-1025; P. 4-1027, P. 4-1033  1.5.4.5 Oregon Department of Forestry	Rationale for inclusion and list of relevant actions catalogued in surface water is provided in the DEIS (P. 4-1025; P. 4-1027); This section refers to use of Forest Practices Act (FPA) minimum riparian management areas (RMAs): <i>The Oregon Forest Practices Act of 1994 would protect stream banks on non-federal lands, requiring a no-harvest buffer for 20 feet on each side of all fish-bearing streams or streams used for domestic water. Therefore, we would not expect Project impacts to water resources to be cumulatively significant.</i>  ODEQ disagrees with this conclusion on the following basis: Thermal impacts that exceed OAR 340-041-0028(11) <u>Protecting Cold Water</u> (PCW) criterion have been documented by ODF from harvest using FPA private forest RMAs for small & medium fish-bearing streams (Groom et al 2011; see Board of Forestry Rules analysis).  At the September 2014 meeting, the Board of Forestry directed the Department of Forestry to work in conjunction with	Correct deficiency: In the absence of a revised Riparian Protection Rule for timber harvest on private lands, ODEQ recommends that more stringent state forest Riparian standards* (for RMAs) be followed.  * Oregon State Forest Management Plan (FMP) [ODF, 2010] riparian buffers <a href="http://www.oregon.gov/odf/pages/state_for_ests/forest_management_plans.aspx">http://www.oregon.gov/odf/pages/state_for_ests/forest_management_plans.aspx</a>  Revise DEIS, and ECRP and other documents accordingly to reflect level of RMA protection needed to meet shade targets and protect cold water at affected areas on private lands.	SA1-127

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SA1-128 Comment noted.

SA1-129 Comment noted.

		Regional Forest Practices Committees and stakeholders to: • Continue analysis of (a) Geographic Regions in western Oregon to which the rule should apply and (b) to which stream segments the rule should apply • Develop prescriptions for a new Riparian Protection Rule		SA1-127 Cont'd
96	2.3.2 Pacific Connector Pipeline and Associated Aboveground Facilities  4.1.2 Pacific Connector Pipeline and Associated  TEWAs: P. 2-84; p. 2-86; TABLE 2.3.2-1 P 4-610 Vegetation and Habitat Removal and Modification	TEWAs represent a significant portion of the area disturbed during construction (TABLE 2.3.2-1 and elsewhere).  Where TEWAs are located near waterbodies, mitigation and restoration should be as clear and explicit as with crossings. DEIS (p. 4-610): <i>A riparian strip at least 25 feet wide on private lands and 100 feet wide on federally managed lands, as measured from the edge of the waterbody, would be permanently revegetated.</i>	Correct deficiency: In the absence of a revised Riparian Protection Rule for timber harvest on private lands, ODEQ recommends that more stringent state forest Riparian standards* (for RMAs) be followed. <i>Oregon State Forest Management Plan (FMP) [ODF, 2010] riparian buffers</i> <a href="http://www.oregon.gov/odf/pages/state_for_ests/forest_management_plans.aspx">http://www.oregon.gov/odf/pages/state_for_ests/forest_management_plans.aspx</a>  Revise DEIS, and ECRP and other documents accordingly to reflect level of RMA protection needed to meet shade targets and protect cold water on private lands.	SA1-128
98	Pacific Connector Pipeline Section 4.4.2.2  P. 4-391	The subsections (Streambank Protection, Sediment Control, Trenching Dewater, Blasting etc) describe the general impacts expected from pipeline construction and outline the mitigation measures that would be followed to minimize these impacts. The document suggests several actions to minimize impacts. However, the document does not identify actions in response to an event that occurs during construction that results in significant impacts not anticipated by Pacific Connector's ECRP, or exceeds the ECRP response capacity.	Correct deficiency: The DEIS (and ECRP) should describe response actions by the Applicant should an event occur during construction that results in significant impacts not anticipated by the ECRP, or exceeds the ECRP response capacity.	SA1-129

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99	<p>Pacific Connector Pipeline Section 4.4.2.2</p> <p>P. 4-395; Hydrostatic Testing</p>	<p>DEIS states: "Water for hydrostatic testing would be obtained from commercial or municipal sources, private supply wells, or from surface water right owners" (see table 4.4.2.2-10).</p> <p>The DEIS does not make clear that (a) surface water availability is limited and (b) use of substantial amount of surface water for hydrostatic testing may result in negative impacts to water quality (temperature, dissolved oxygen) or other beneficial impacts (fisheries).</p> <p>Consultation with OWRD, District 15 indicates that water availability in the Umpqua Basin is best described as follows: "Water for hydrostatic pipeline testing may be obtained from several sources if the necessary permits, limited licenses and contracts are secured. Municipalities or quasi-municipal suppliers may provide water for the project given any necessary contractual agreements are in place. Groundwater from individual private wells in amounts not to exceed 5,000 gallons/day/well may be used without the need for a permit. Use of groundwater above this level would require a limited license or permit from the Oregon Water Resources Department (OWRD). Water from surface water sources could be obtained through transfers of existing water rights, purchase of stored water from Galesville Reservoir under contract with Douglas County, purchase of stored</p>	<p>Correct error and deficiency: The DEIS should accurately reflect and quantify current water availability in each subbasin in the pipeline corridor and from sources generally identified in the document to determine if the hydrostatic testing water sources, as proposed, are feasible.</p>
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SA1-130

SA1-130 The exact sources are not known at this time. The State's concern can be addressed through its own permitting process. The applicant would be required to meet State and Federal laws and regulations, as stated in section 1.5.1 of the DEIS.

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SA1-131 Comment noted.

		water from Ben Irving Reservoir under contract with the Lookingglass-Olalla Water Control District and/or under a limited license for the use of live flow when available. In addition to contracts, the use of Galesville or Ben Irving storage would require a limited license. Live flow would not be available on the South Umpqua River and tributaries from July 15 through September 30 and on Lookingglass Creek and tributaries from June 1 through September 30. The availability of live flow under a limited license may be further restricted by regulatory activity due to shortages for existing water rights."		SA1-130 Cont'd
100	4.4.2.2 Pacific Connector Pipeline  Major Waterbody Crossings	DEIS (P. 4-385) states: <i>The eastern crossing of the South Umpqua River was given a turbidity score of 4 – moderate.</i>  The DEIS evaluation concluded that turbidity generated during construction may exceed the Oregon water quality standard for short distances and short durations downstream from each crossing, either coinciding with construction across perennial waterbodies or in intermittent streams coincidental with autumn precipitation. Further, "There would be short-term turbidity increases for several hours during portions of the installation and removal of the diversion structures for the proposed diverted open-cut crossing of the South Umpqua River."  ODEQ concludes that Pacific Connectors expects that	Correct deficiency: The DEIS should reflect the need to provide a more robust evaluation of: (a) the amount and characteristic of fine sediment that is expected to be generated, and (b) fate and impacts to aquatic habitat and aquatic life of fine sediment expected to be produced and that actually produced by the pipeline Project.	SA1-131

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SA1-132 Comment noted.

		<p>turbidity standards will be violated for unknown periods of time at unknown levels for this crossing and possibly others.</p> <p>In the South Umpqua sub-basin, there are 22 segments that are Category 5: Water quality limited, 303(d) list, TMDL needed for Biological Criteria. For many of these segments fine sediment has been identified as a significant stressor.</p> <p>The DEIS minimizes downstream impacts of fine sediment deposition on aquatic habitat and aquatic life.</p>	SA1-131 Contd
101	<p>Landslide Hazards Avoidance and Minimization of Adverse Effects</p> <p>4.2.2.2 Seismic Setting and Hazards Pgs. 4-269-271;</p>	<p>Extensive evaluation of potential geological hazards has been conducted and is summarized in the DEIS. However, less robust is the analysis of the likelihood that pipeline construction or its operation (through its existence as a new feature of the landscape) will be a cause of slope failures. The DEIS indicates that this risk has largely been reduced through re-routing away from slopes that pose the most <u>risk to the pipeline</u>.</p> <p>The subsurface pipeline could affect slope stability similar to a road, resulting in alternations to slope stability and hydrology associated with both its construction and a permanent feature of the landscape, as backfill and slope settling occur.</p> <p>DEIS (P. 4-271): <i>Specialized trench backfill is utilized where pipelines cross landslides or fault zones where differential movement or shearing across the pipeline is expected.</i> The</p>	SA1-132



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	<p>potential for mass wasting and slope failures that might be triggered by pipeline construction are discussed in more detail (see geotechnical evaluations on most sites; however, private lands are not completely addressed). ODEQ understands that all of the site specific evaluations on private lands will be completed prior to construction and reports submitted as part of FERC licensing requirements.</p> <p>DEIS (P. 4-270) states that "Two moderate-hazard RML sites (MPs 18.1 to 18.2 on private land, and MP 36.9 on BLM land) could not be avoided." This section provides general description of the response, but details are not provided.</p> <p>Potential slope failures and mass wasting events triggered by pipeline construction or due to changes to slope stability or hydrology in the post-construction operational period need to be addressed, assessed and mitigated.</p> <p>In the event a slope failure occurs during the construction phase, a mechanism needs to be established for determining whether a slope failure in proximity to a pipeline construction area is related to the pipeline.</p> <p>For the operational phase, the DEIS (P. 4-270) does not make clear whether there is a detailed plan of action to identify and address slope instability and refers to "...monitoring currently</p>	
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		<i>performed on existing Williams-owned pipeline facilities in southwestern Oregon".</i>	
102	Too numerous to cite.  P. 4-425	During the ODEQ CWA Section 401 process, Pacific Connector would develop a source specific implementation plan to outline mitigation for predicted thermal impacts (GeoEngineers 2013i). This mitigation would have as its goal restoring shade along affected stream channels and nearby channels within the same fourth-field HUCs. Mitigation for construction-related impacts would occur to the extent allowed by landowners on the affected streambanks.  The document discusses the establishment of woody vegetation in riparian corridors in several areas. In addition, mitigation measures should include establishment of vegetation.	Correct deficiency: Identify criteria for vegetative success. Incorporate survival, density, and free to grow metrics. Describe vegetation maintenance activities that will be conducted (plant augmentation, control of competitive non desirable vegetation (reed canary, black berry, watering, etc). The establishment of vegetation routinely requires monitoring and management for 3-5 years until woody vegetation reaches a free to grow state.  Identify and discuss: What will guide woody and shrub species selection? How will vegetative prescriptions be developed?
103	P. 4-425	"Mitigation for construction-related impacts would occur to the extent allowed by landowners on the affected streambanks."  Vegetative buffers should be restored to widths equal or above pre-disturbance conditions at each site to 200 feet from streams. Re-vegetation scenarios should be compliant with applicable regulatory mechanisms such as the Forest Practices Act, Oregon Department of Agriculture rules relating to agricultural lands, as well as those ordinances implemented by local jurisdictions.  The NWFP identifies the riparian	The DEIS should identify and recommend that Pacific Connector should comply with current regulatory mechanisms per land use unless variance, waiver, exemption has been granted to appropriately mitigate environmental impacts to a less than significant level.

SA1-133

SA1-134

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SA1-133 The land managing agencies have criteria for the federal lands they manage. As the DEIS states, it is up to private landowners (and State laws) to determine what vegetation is established on private land. FERC does not dictate to private landowners what vegetation should be established on their property.

SA1-134 Compliance with existing laws and regulations is already required, see section 1.5.1.

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		management areas as two tree heights. The USFS document, Northwest Forest Plan Temperature TMDL Implementation Strategies, 2004, determined that harvest in the secondary tree zone (the second tree height) could result in increases in stream temperatures primarily from the loss of angular canopy density. Impacts to riparian vegetation on federal and non-federal lands should include an assessment of the impacts of riparian removal to a distance of two tree heights.	
104	P. 4-1025	<p>"Lower Coos Bay, within the project area, is listed on the Oregon 303(d) list as water quality limited for fecal coliform. There would be no discharge of sanitary waste from the Project to Coos Bay; therefore, the Project would not contribute to cumulative impacts on fecal coliform levels in Coos Bay".</p> <p>Although the ODEQ identified water quality impairments according to segmentation guidelines it should be noted much of the lower Coos Bay 303d listed segment meets fecal coliform water quality criteria. Those waters attaining water quality criteria are subject to the antidegradation rule.</p> <p>340-041-0004 Antidegradation (6) High Quality Waters Policy: Where the existing water quality meets or exceeds those levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water, and other designated beneficial uses, that</p>	<p>Correct deficiency: The DEIS should fully analyze whether the project can comply with applicable Clean Water Act Antidegradation requirements as set out in 40 CFR 122.4(i), 40 CFR 131.12, OAR 340-041-0004, DEQ's Antidegradation Policy, Implementation Internal Management Directive for NPDES Permits and Section 401 Water Quality Certifications (March 2001), and EPA's August 8, 2013, Review of Oregon's Antidegradation Internal Management Directive.</p> <p>These antidegradation regulations, rules, and policies require, <i>inter alia</i>, maintaining and protecting existing instream uses, protecting and maintaining existing high quality waters unless certain state findings are made, and prohibitions on certain new point source discharges to water quality limited water bodies.</p>

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SA1-135

SA1-135 The project would need to comply with the CWA or it would not meet the requirements of the Public Order. In which case, it would not be built. As discussed in section 1.5.1, permits are required before construction may begin.

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		<p>level of water quality must be maintained and protected. However, the Environmental Quality Commission, after full satisfaction of the intergovernmental coordination and public participation provisions of the continuing planning process, and with full consideration of sections (2) and (9) of this rule, and 340-041-0007(4), may allow a lowering of water quality in these high quality waters if it finds:</p> <p>(b) The action is necessary and benefits of the lowered water quality outweigh the environmental costs of the reduced water quality. This evaluation will be conducted in accordance with ODEQ's "Antidegradation Policy Implementation Internal Management Directive for NPDES Permits and section 401 water quality certifications,"<sup>11</sup> pages 27, and 33-39 (March 2001) incorporated herein by reference.</p>	
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**Appendix ODEQ:** Response to Pacific Connector's thermal Analysis-ODEQ Concurrence Request  
U.S. Army Corps of Engineers permit numbers 2007-00855 and 2008-00592

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SA1-136 Comment noted.

Fish and Wildlife, Oregon Department of (ODFW)

Art Martin

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**Note to Reader:** ODFW staff have reviewed the vast majority of the 5,000 + page project Draft EIS. Most sections and appendices of the DEIS are relevant to potential impacts to fish, wildlife, and their habitats. ODFW recognizes these comments and recommendations are both lengthy and complex. Therefore ODFW has expended great effort to focus these comments and to be as specific as possible with these recommendations. ODFW sincerely believes this effort will result in better readability and improve both the efficiency in communicating and the efficacy of this important information.

**Natural Resource Technical Advisory Group:** ODFW has concerns that no formal team of Natural Resource advisors including the Applicant, and natural resource knowledgeable professionals from appropriate agencies, tribes, and other pertinent organizations have been identified or recommended as necessary in this DEIS to assist project managers with development and implementation of adaptive management. Without such a group, it is unreasonable to conclude that the identified adaptive management will be implemented so as to reduce the Project's significant environmental impacts to less than significant levels. ODFW recommends the DEIS discuss and recommend that the JCEP/SDPP/PCGP managers collaborate to establish a Natural Resource Technical Advisory Group (NRTAG) to provide interactive specific guidance/feedback, evaluation of potential ecological impacts risks, needed monitoring/studies, and post-study ecological assessment relating to:

- Direct and indirect construction impacts of the project.
- Post-construction legacy impacts to fish and wildlife production on the site.
- Precise methods of study to determine/measure the magnitude of both project impacts and restoration/mitigation effectiveness.
- Assist with development of mitigation strategies, provide implementation guidance, and assist with identifying monitoring needed to ensure JCEP/SDPP effectiveness of mitigation.

The purpose of the team would be to initiate and maintain effective ongoing discussion between JCEP/SDPP/PCGP and the federal, tribal, state, and local agencies about the potential impacts to natural resources and the steps that will be taken to avoid, minimize and mitigate for any residual damages and losses. The NRTAG will also serve as the forum for discussion about design and implementation of mitigation actions; provide technical feedback, guidance, between the Applicant and stakeholders toward development of monitoring/study, mitigation, and adaptive management plans.

- ODFW recommends the team be comprised of members from federal agencies (e.g. USFWS, USBLM, USGS, NOAA/NMFS, ACOE, etc.), tribes (Coquille, CTCLUSI), state agencies (e.g. ODLCD, ODFW, ODA, ODSL, ODEQ), and other stakeholders (e.g. UO-OIMB, SSNER, CWA, etc.)
- ODFW recommends the number of individuals on this team be limited to no more than ten to twelve members including the Applicant/affiliate, as efficiency of decision-making often becomes difficult with larger groups.
- ODFW recommends establishment of NRTAG by the Applicant or affiliate in coordination with ODFW.

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- ODFW recommends scheduling and leadership of the regular function of the NRTAG (scheduling of meetings, coordination, etc.) be the duty of the Applicant or affiliate.
  - ODFW recommends the NRTAG be formed and convened no less than six months prior to initiation of construction at the JCEP/SDPP/PCGP site. ODFW recommends the NRTAG meet at regular quarterly intervals or more often as needed (decided by the NRTAG and JCEP/SDPP/PCGP). However, the team can agree to meet less often if it is considered that quarterly frequency is unnecessary. ODFW recommends the NRTAG remain functioning for a minimum of four years post-construction.
  - ODFW recommends the NRTAG collaboratively come to agreement on the number and type(s) of monitoring/study(s) required for determining the degree of impact related to the JCEP/SDPP/PCGP. ODFW recommends the NRTAG also come to consensus on unanticipated construction, post-construction impacts, and final adaptive management mitigation actions necessary to compensate for those impacts.
  - ODFW recommends monitoring/studies and mitigation implementation be completed by highly qualified staff approved by ODFW and NRTAG.
  - ODFW recommends the NRTAG goals focus on technical guidance and review of study and management of actions subject to adaptive management and to effectively understand and inform effective mitigation for the impacts of the JCEP/SDPP/PCGP projects. As such, ODFW recommends the team be comprised of individuals who are natural resource professionals or highly knowledgeable in one or all of the following:
    1. Ecological sciences related to fish and wildlife resources or marine resources
    2. Cultural resources
    3. Recreational resources
    4. Mitigation/Restoration sciences
    5. Water quality sciences
    6. Hydrological sciences
- ODFW recommends results of JCEP/SDPP/PCGP studies be circulated annually to ODFW, NRTAG, DEQ, local tribes, and other interested parties.
- ODFW recommends the JCEP/SDPP/PCGP managers consider recommendation of the NRTAG to better focus effective mitigation for fish and wildlife losses related to hydrologic impacts should they occur beyond those already acknowledged in the DEIS.
- If aquatic natural resource production (e.g. Dungeness crab, Coho, Chinook salmon, steelhead, sturgeon, juvenile rockfish, and others) is deemed to have been affected by turbidity or salinity changes, ODFW recommends an appropriate mitigation plan be developed by the Applicant in collaboration with ODFW/NRTAG and implemented within one year after the magnitude of impact is recognized or one year after conclusion of the study(s), whichever is first.
- ODFW Advisory Biologist/Liaison: ODFW recommends that JCEP/SDPP/PCGP develop and implement an agreement with ODFW to fund a limited duration ODFW employee to serve as an export facility and pipeline construction liaison through the entire construction process and at least 1-year following completion of construction. Without such a project liaison, it is unreasonable to conclude that the

SA1-136  
Cont'd

SA1-137

SA1-138

SA1-139

- SA1-137 Comment noted.
- SA1-138 Comment noted.
- SA1-139 Comment noted.

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recommended (and we hope required) collaboration and coordination between ODFW and JCEP/SDPP/PCGP will be carried out so as to reduce the Project's significant environmental impacts to less than significant levels. The biologist/liaison would work across Department District and Region boundaries and with Department field and headquarters staff to coordinate prompt agency responses and recommendations as fish, wildlife, and habitat, mitigation, and fish passage related issues arise before, during, and following construction. This individual would work with the NRTAG, ODFW, JCEP/SDPP/PCGP consortium to determine data needs, provide the on-the-ground connection between the project, agency policy, coordinate with U.S. Forest Service, Bureau of Land Management, and U.S. Fish and Wildlife Service, and NOAA Fisheries biologists, local tribal staff, actively participate in the state and federal permitting processes, and coordinate with other state and local agencies as appropriate.

SA1-139  
Cont'd

Oregon Fish Passage Law Compliance and Consistency

The DEIS should be modified to reflect the following information and proposed recommendations. Oregon Revised Statute 509.585 (Oregon Fish Passage Law) applies to all project components that cross waters of the state where native migratory fish species are or were historically present. The PCGP Project proposes numerous components that will cross waters of the state, which are defined in Oregon Administrative Rule 635-412-0005(46). These waterway crossing components and corresponding construction methods include LNG pipeline construction techniques (horizontal directional drilling, conventional boring, dry or wet open cut trenching) and new or temporary access roads. The extensive road network necessary to access, construct, and maintain the project will cross multiple streams or waterways and will use a variety of road-stream crossing construction techniques and methods (culverts, fords, bridges). In order to mitigate potentially significant environmental harm to the state's fish and wildlife resources to less than significant levels, these project components must be designed, constructed, and maintained consistent with Oregon fish passage law and policies. ODFW recommends that FERC clarify its recommendation mitigation measure 22 (see Section 5.2, p. 5-31) such that compliance with Oregon's fish passage law is a condition of the license and must be demonstrated by the applicant as follows and concurred with by ODFW prior to construction that will affect such resources: JCEP/SDPP/PCGP must submit specific stream crossing design details at each project component that will cross waters of the state of Oregon. The expectation and goal of these design details are to specifically identify and depict how each waterway crossing proposed by the project will meet fish passage rules and regulations. To date the project has not submitted the site specific fish passage design details adequate for ODFW's review and fish passage permit approval. However ODFW and the Applicant have collaboratively identified the conceptual design details necessary to fulfill the state's fish passage requirements. ODFW anticipates frequent, interactive coordination points with the Applicant to complete the application for approval of project stream crossing under Oregon Fish Passage Law prior to construction; however, as stated above, ODFW requests that this specificity and clarification be added to FERC's recommended mitigation.

SA1-140

Oregon In-water Blasting Permits

The DEIS should be modified to include the following information and proposed recommendations. In-water blasting has the potential to injure aquatic fish and wildlife due to percussion shock waves produced by the energy associated with the explosion. This percussion can cause direct injury and stressors including bursting of swim bladder, hemorrhage, damage to sensory organs, and trigger displacement behavior in fish species.

SA1-141

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SA1-140 Please note that the pipeline would not transport LNG. It would transport natural gas, which would be converted into LNG at the proposed facility in Coos Bay. As discussed in section 1.5.1, all permits must be obtained prior to construction. This includes State permits for water crossings. The State may require additional measures, including individual crossing designs, as part of their permitting process.

SA1-141 Blasting effects are discussed in section 4.6.2.3. As discussed in section 1.5.1, all permits must be obtained prior to construction.

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SA1-142 This information has been added to the FEIS.

Oregon Administrative Rule 635-425-0000 through 0050 (In-water Blasting Permits) requires in-water blasting permits be obtained for any stream crossing locations where the use of explosives is desired in the course of removing any obstruction in any waters of this state, in constructing any foundations for dams, bridges, or other structures, or in carrying on any trade or business (OAR-635-425-0005). Further, it is the policy of the Oregon Fish and Wildlife Commission to discourage in-water blasting unless it is the only practicable method to accomplish project goals. ODFW may issue in-water blasting permits only if they contain conditions for preventing injury to fish and wildlife and their habitat (OAR635-00015).

The Applicant has engaged ODFW in discussions regarding the need for and intent to apply for in-water blasting permits before construction begins. However, ODFW understands the Applicant has not been able to physically access all stream crossing locations preventing the collection of necessary site-specific geotechnical information necessary to demonstrate in-water blasting is the only practicable method to accomplish project goals at certain locations. ODFW recommends that FERC include in Section 5.2 a requirement for the Applicant to obtain in-water blasting permits as a condition of the license, and specifically require that JCEP/SDPP/PCGP carry out frequent and iterative coordination with ODFW subsequent to physical access to potential in-water blasting location(s). ODFW understands that the Applicant has agreed to submit in-water blasting permit application after obtaining access to site locations and having collected necessary site-specific information to complete applications in order to demonstrate that this construction method is necessary, the least impactful method (to fish, aquatic wildlife, and their habitats); however, FERC should recommend that these entities do so clearly *as a condition* of the project license in Section 5.2 before relying upon such actions to justify its conclusion that environmental impacts have been reduced to less than significant levels.

SA1-141  
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Fish and Wildlife Habitat Mitigation Policy

The DEIS should include the following information and recommendation to remedy deficient discussion related to ODFW's fish and wildlife habitat mitigation policy.

The Fish and Wildlife Habitat Mitigation Rule (OAR 635-415-0000 through 0025) governs ODFW's provision of biological advice and recommendations concerning mitigation for losses of fish and wildlife habitat caused by development actions. Based on standards in the rule, ODFW determines the appropriate category to apply to land or water where a development action is proposed. If ODFW determines that such habitat is Category 1, ODFW must recommend that impacts to the habitat be avoided. If impacts cannot be avoided, ODFW must recommend against the development action. If ODFW determines that such habitat is Category 2, ODFW must recommend that impacts to the habitat be avoided. If impacts cannot be avoided, ODFW must recommend a high level of mitigation (as specified in more detail in the rule). If such mitigation is not required, ODFW must recommend against the development action. Subsequent specific mitigation goals follow for habitats determined to be Category 3, 4, 5 and 6, and for which impacts cannot be avoided.

SA1-142

The Applicant has engaged ODFW in discussions regarding habitat categorization per the standards in OAR 635-415-0000 through 0025. After exchanging background information and assistance interpreting the policy, the Applicant has submitted a series of draft project alignment maps with their attempt at habitat categorization per the standards in OAR 635-415-0000 through 0025. Department staff are reviewing and commenting on the draft on a parallel track to reviewing the DEIS and developing these comments. ODFW anticipates that frequent and iterative coordination with the Applicant on this draft habitat categorization/mapping and detailed development of the various project habitat mitigation plans will likely result in a suitable detailed impact analysis and mitigation package for mitigation to



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compensate for impacts to Category 2-6 aquatic, wetland, riparian, and upland habitats on both Federal lands and non-federal lands alike.

However, ODFW understands that FERC and the Applicant have identified there will be residual impacts to spotted owl nesting habitat in year 1. Both spotted owl and murrelet nesting habitats and the immediate surrounding habitats are categorized as Category 1 Habitats due to the essential, limited, and irreplaceable functions they provide the species. The DEIS identifies 558 acres of spotted owl nesting habitat that will be removed by the project. Therefore, ODFW must recommend project redesign to avoid these Category 1 habitat impacts or be left with no other policy alternative than to recommend that FERC deny authorization of the project.

Also, while ODFW supports FERC's recommendation 21 in Section 5.2, we recommend that FERC clarify that this measure requires the applicant to demonstrate ODFW concurs that all mitigation actions related to fish and wildlife are consistent with the Fish and Wildlife Habitat Mitigation Policy (OAR 635-415-0000 to 0025). While ODFW agrees with the DEIS statement that Jordan Cove and Pacific Connector have voluntarily agreed to categorize habitat impacts and mitigate such impacts consistent with ODFW's policies and ODFW is pleased by the collaboration and willingness of the applicant to-date to comply with such policies, FERC should recommend that the Applicant do so as a condition of the project license in Section 5.2 before relying upon such mitigation to justify its conclusion that impacts have been reduced to less than significant levels.

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#### JORDAN COVE LIQUEFACTION PROJECT COMPONENT

Introduction: The following narrative is intended to set the general context for the specific comments and recommendations set forth in the table. The DEIS should be modified to include the following information to correct the present deficiencies and errors.

The proposed Jordan Cove Energy Project (JCEP), South Dunes Power Plant (SDPP), and Pacific Connector Pipeline (PCGP) projects are unprecedentedly large in scope, will likely incur deleterious ecological impacts, and have legacy implications for aquatic habitats of Coos Bay and upland habitats on North Spit. The North Spit provides intrinsically unique habitat features in that it is one of the only ocean peninsula land features in the state with estuarine, ocean, wetland, and upland habitats available for fish and wildlife within a very small geographical area. This unique landform and bay provide a number of strategic benefits for production of fish and wildlife. Coos Bay is the largest estuary in Oregon and supports populations of fish and shellfish that contribute to large commercial and recreational fisheries. The aquatic and upland habitats in the JCEP/SDPP project area have been subjected historically to a number of landscape and waterway alterations including: dredging, rip-rap installation, leveling, and removal of native coastal pine forest, filling of wetlands, and other development related impacts. These habitats historically would have been primarily characterized as Category 2 or 3 habitats, (providing essential, important, and/or limited habitat function for fish and wildlife) under the ODFW Habitat Mitigation Policy (OAR 635-415-0000 through 0025). Although negatively impacted historically, much of the tidal, subtidal, and upland habitats at the proposed project site have received only minimal disturbance in the past two decades and substantial recovery of ecological function has occurred.

SA1-143

Aquatic Estuarine Discussion: 4.6.1.1-1 pg 492-494 (Note some of the acreages noted below vary slightly from the DEIS as there has been combination or different sorting of habitat types through drafts of the Aquatic Mitigation Plan). In 2010 and 2011, ODFW was originally solicited by David Evans and Associates

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- SA1-143 Comment noted. Effects on the bay and the aquatic resources in the bay are disclosed in the applicable section of Chapter 4.
- SA1-144 The background information provided is noted.

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SA1-145 The comment that the Project proposes to fill in the marsh is noted.

Consulting (DEA) to assist with categorizing the aquatic and upland habitats at the JCEP and SDPP based on OAR 635-415-0000 through 0025. From 2011-2014, ODFW and DEA have determined that there is an approximate total of 33.9 acres of Category 2 habitat as follows: 16.7 estuarine/intertidal habitat; 0.3 acres of low salt marsh; 5.8 acres of intertidal unvegetated sand; 4.7 acres of algae/mud/sand; 3.4 acres of shallow subtidal; and 3.0 acres of eelgrass habitat within the project location where estuarine dredging is proposed. There are 15.4 acres of deep subtidal Category 3 habitat that will be dredged as well. These subtidal, tidal, intertidal, and shoreline features provide critical habitat for a number of culturally and economically important game and non-game species including, but not limited to: Dungeness crab (*Cancer magister*), red rock crab (*Cancer productus*), cockles (*Clinocardium nuttallii*), gapers (*Tresus capax*), butter clams (*Saxidomus giganteus*), littleneck clams (*Protothaca staminea*), rockfish (*Sebastes spp.*), lingcod (*Ophiodon elongates*), greenling (*Hexagrammos decagrammus*), California halibut (*Paralichthys californicus*), English sole (*Parophrys vetulus*), Pacific sand dabs (*Citharichthys sordidus*), ghost shrimp (*Callinassa californiensis*), mud shrimp (*Upogebi pugettensis*), starry flounder (*Platichthys stellatus*), smelts (Osmeridae family), (Engraulidae family), sardines (Clupeidae family), fall run Chinook salmon (*Oncorhynchus tshawytscha*), green sturgeon (*Acipenser medirostris*), white sturgeon (*A. transmontanus*), (OC) ESA threatened coho salmon (*O. kisutch*), and possibly Pacific lamprey (*Entosphenus tridentata*). There is some potential that Pacific smelt (eulachon) (*Thaleichthys pacificus*) may be found in the JCEP area of Coos Bay. Additionally, the mudflats in the JCEP area support a commercial ghost shrimp fishery.

SA1-144  
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Native eelgrass (*Zostera marina*) stands provide critical cover for a number of fish and wildlife species and attributes for primary ecological production (Thom et al. 2003; Kentula and De Witt 2003). The eelgrass stands increase complexity within a benthic habitat that is otherwise relatively uniform. Long-term efforts removing large woody debris and other natural structure embedded in the substrates of bays in order to facilitate shipping have greatly exacerbated this lack of complexity further increasing the importance of eelgrass beds. Eelgrass beds provide both primary complexity and edge effect for adjacent habitats. In many cases, macroinvertebrate and fish/shellfish species complexity is dramatically greater within eelgrass stands compared to locations where eelgrass is not present. Dredging in the JCEP project area is expected to have significant deleterious effects on species that use eelgrass habitats at that location.

Aquatic Freshwater Discussion: 4.6.1.1-1 pg 492-494 (Note some of the acreages noted below vary slightly from the DEIS as there has been combination or different sorting of habitat types through drafts of the Aquatic Mitigation Plan). As identified through the collaborative efforts of DEA and ODFW there are calculated to be 16.2 acres of Category 2 upland/aquatic habitat: 0.6 acres of open water; 13 acres of shrub-scrub wetland; 1.9 acres of emergent wetland; and 0.7 acres of forested wetland that will be impacted by the JCEP. These wetland habitats provide functionally important ecological features on North Spit as they contribute to nutrient cycling where the sandy soil types are very limited in primary nutrients, and are freshwater refugia within a short distance to saline habitats. The wetlands and open water ponds are important for production of a number of amphibians including rough skinned newts (*Taricha granulosa*), red-legged frogs (*Rana aurora*), as well as several species of tree frog (i.e. Pacific tree frog *Pseudacris regilla*). Three-spined stickleback (*Gasterosteus aculeatus*) occupy a number of the ponds and deeper wetlands. Numerous waterfowl species transition through these ponds including mallards (*Anas platyrhynchos*), bluebills (*Aythya marila*), wood ducks (*Aix sponsa*), and Canada geese (*Branta Canadensis*). The JCEP slip is slated to provide the infrastructure for the Marine Gateway Terminal Project (DEIS ES pg 4), which will require filling of Hendersen Marsh (170.8 acres) in the upcoming years.

SA1-145

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Upland Discussion: 4.6.1.1-1 pg 492-494 (Note some of the acreages noted below vary slightly from the DEIS as there has been combination or different sorting of habitat types in table 4.6.1.1-1. The Applicant/affiliate proposes to excavate approximately 3.8 million cubic yards (MCY) of material from upland habitats and with other construction actions disturb total of roughly 195 acres for the JCEP and another 66 acres for the linked SDPP project. DEA, in coordination with Department staff, has calculated that 101.9 acres of Category 3 habitat: 0.4 acres of riparian forest and 101.5 acres of coastal dune forest are present within the project area. There are 110.8 acres of Category 4 upland habitats that are within the project area: 1.0 acres of shrub upland; 43.5 acres of herbaceous shrub upland; 1.7 acres of herbaceous upland; 3.4 acres of unvegetated sand upland; and 61.2 acres of grassland. Another 90.9 acres of disturbance in Category 3, 4, and 6 habitats will be associated with construction of temporary facilities. A notable portion of the impacted uplands will be converted from terrestrial habitats to aquatic habitats, in order to construct a slip moorage for vessels. Columbian black-tailed deer (*Odocoileus columbianus*) use the flats and vegetated sand dunes within the project area year long. Black bear (*Ursus americanus*) and coyotes (*Canis latrans*) also use upland habitats at the site. There are 11 species of amphibians (8 salamanders, 3 frogs) at least 10 species of reptiles that have been found to occur on the North Spit as noted in the DEIS.

SA1-146

SA1-146 The fact that wildlife currently use the marsh is noted. The DEIS discusses the species that use the marsh in sections 4.6 and 4.7.

Avian wildlife on the proposed project area are generally diverse and include great blue heron (*Ardea herodias*), snowy egret (*Egretta thula*), and osprey (*Pandion haliaetus*). Two species that were formerly on the Endangered Species list, bald eagles (*Haliaeetus leucocephalus*) and peregrine falcons (*Falco peregrinus*), use the site seasonally or on occasion.

General Comments: ODFW recommends that FERC disclose and consider in this DEIS the potential immediate economic benefits or impacts to the local communities of Coos County and at the state level in the context of both the potential environmental adverse effects economically important industries (e.g. Commercial fishing, recreational fishing and hunting, aesthetics, wildlife viewing, and aquaculture) that depend on healthy and abundant fish, wildlife, and habitats. Fish and Wildlife recreational expenditures in 2008 accounted for 2.5 billion in income for the state of Oregon (Runyan and Associates 2009). In Oregon, commercial Dungeness crab landings from the ocean and Columbia River have averaged 16.1 million pounds per season with an average ex-vessel value of 30.2 million dollars, over the last twenty years. The 2004-2005 season saw a record high of over 33.5 million pounds of crab landed (ODFW unpublished 2006).

SA1-147

SA1-147 The DEIS discloses the economic effects of the project in section 4.9.

Marked change will occur to the productivity of the dredged portion of the bay and little recovery is expected over time. Maintenance dredging of 37,000 CY per year (DEIS 2.0 pg. 26) will result in a continually disturbed condition preventing development of any reliable estuarine production in the affected areas. No less important are the wildlife resources in the uplands that will be displaced by this complete conversion of upland habitat to a new deepwater terminal/zone and long-term daily disturbance factors attributable to project activities. The magnitude and long-term severity of these potential impacts may be very difficult to estimate through models and best professional judgment. ODFW recommends this DEIS include in Section 5.2 that the Applicant carefully plan and execute long term monitoring of these changes to the bay and estuary for the life of the project. ODFW recommends the monitoring program inform an adaptive management approach to confirm estimates of both impact and mitigation to ensure habitat functions as are fully restored or compensated for commensurate to the actual shorter or longer term impacts of the action.

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ESTUARINE AQUATIC CONCERNS BY ITEM

The DEIS should include the following information to remedy deficient analysis and identification of environmental impacts of proposed action related to each item.

Dredging of the "Slip" will create a new deepwater alcove backwater likely resulting in a number of significant biological effects (e.g. change to water flow patterns in the vicinity, salinity patterns, turbidity associated with initial and repeated dredging, and shallow water conversion to deep water). While hydrodynamic models provide some insight into the physical changes that the site and bay may undergo, biological changes should be studied in situ to accommodate unknown variables. The actual JCEP/SDPP longer term, indirect project impacts to larger estuary may not be accurately predicted prior to construction.

No.	Citation	Issue Identification	Recommended Resolution
1	Chapter 1.4.1 pgs. 1-20; also Table 4.14.2.3-1; also 2-81;	DEIS scope: the current DEIS briefly describes but does not analyze the cumulative impacts from the "Coos Bay Channel Deepening/Widening Project" ("Channel Modification", proposed by Port). The new Terminal will "invite" larger/deeper ships...after the project constructs the new Terminal. JCEP will own the terminal, with Port leasing it. Deepening the navigational channel could have significant impacts to the Bay, including changes to the tidal water interchange: salinity, temperature, saltwater intrusion distance and concomitant ecological changes.  The DEIS currently states, "There is no direct relationship between the Port's planned channel improvement project and the Jordan Cove LNG Project." The actions associated with use of the new terminal are reasonably foreseeable and any related environmental or economic impacts should therefore be considered in the cumulative effects analysis under NEPA. JCEP will create the terminal, own the	ODFW recommends the DEIS include analysis of cumulative impacts of Port's proposed Oregon Gateway Terminal and Channel Modification projects, which are a foreseeable result associated with JCEP. JCEP will create the terminal, own the terminal, with Port leasing it.

SA1-148

SA1-149

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SA1-148 Comment noted.

SA1-149 The proposed use of the west side of the slip has evolved from the original concept. The proposed action under this NEPA analysis includes a single-use slip and access channel that solely supports LNG operations. The 800-foot slip width would be needed in order to be able to move an LNG vessel off of the LNG berth on the east side of the slip in the event of an incident within the LNG upland facilities that might threaten the safety of the LNG vessel at berth. Having the 800 foot slip width provides the flexibility needed for tugs to move the LNG vessel away from a hazard at the terminal or at the LNG loading dock to the relative safety of the west side of the slip. All references to a multi-purpose facility, mixed-use facility and/or alternative use in the DEIS, appendices and other supporting documents have been deleted from the FEIS.

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		terminal, lease to the Port, and the Port will lease to West terminal users.	
2	Chapter 2.1.1.2 pgs. 2-4; 2-98	<b>Port will maintain access channel depth.</b> Will this become part of the Port's Unified Dredging Permit, which maintains the depth of several access channels and vessel berths connected to, but outside of, the navigational channel?	This DEIS must clarify whether the access channel dredging and maintenance dredging will be part of Unified Permit in order to adequately disclose potential environmental impacts of proposed action. ODFW recommends FERC requires as mitigation that all dredging of the portions of the project outside of the footprint of the current Federal Navigation channel or within the current upland and fully isolated from the bay by the proposed soil berm occur only with in the ODFW's in-water work window or in accordance with the current ODFW/DSL Memorandum of Understanding.  <a href="http://www.odfw.state.or.us/lands/inwater/">http://www.odfw.state.or.us/lands/inwater/</a>
3	Chapter 4.0 pgs. 997, 4-1020; 4-1025; 4-1026 last paragraph	<b>Cumulative Effects--navigational channel improvement:</b> Oregon Gateway Marine Terminal, Principle Power Windfloat Project (Henderson Marsh) were neither well-described nor analyzed for potential impacts (cumulative impacts) in DEIS. They are "reasonably foreseeable" actions associated with JCEP because they have been proposed, and utilize facilities that will be built by/for JCEP. From ODFW's perspective, these project components seem to be interrelated and interdependent upon each other. The DEBE states: "Taken together, the Project and projects identified in Table 4.14.2.3-1...are not expected to cause significant cumulative impacts to surface waters." FERC denied linkage, and thus did not adequately analyze the impacts of these linked actions.	Correct deficiency by including an analysis of cumulative impacts of Port's proposed Oregon Gateway Terminal and Channel Modification projects, which are a foreseeable result associated with JCEP. JCEP will create the terminal, own the terminal, with Port leasing it.

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- SA1-150 The Unified Permit is held by the Port. Permits to construct the slip and access channel would be held by the applicant.
- SA1-151 As noted above, the proposed use of the west side of the slip has evolved from the original concept. The proposed action under this NEPA analysis includes a single-use slip and access channel that solely supports LNG operations. A multi-purpose facility, mixed-use facility is no longer an available option.

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4	Exec Sum Chapter 2.0 pg. 26; pg. 82, 84; Exec Sum 7; 4-359;	<p><b>Direct Construction and Maintenance Dredging Impacts:</b> Lethal and non-lethal impacts to marine fish, crab, shrimp, bivalves, juvenile Chinook salmon, white sturgeon; ESA listed coho salmon, green sturgeon, and Pacific eulachon; as well as non-listed Pacific lamprey, and other species may occur:</p> <ul style="list-style-type: none"> <li>• Through entrainment in the hydraulic dredge at the time of the initial construction.</li> <li>• Be impacted by entrainment during future maintenance dredging required to keep the berth and access to the berth serviceable.</li> <li>• Become attracted to the alcove and away from natural habitats, introducing risk of industrial impacts to these species (e.g. metabolic expenditure from disturbance; entrainment into cooling intakes, entrainment into ship ballast water intakes).</li> <li>• The access channel from navigational channel to terminal is approx. 30 acres; will dredge 1.3 MCY; turbidity will likely last for 4-6 months; "localized". Four to six months could affect the life history of several estuarine species (fish and invertebrates), depending on timing. ODFW IWWW is shorter than six months long.</li> </ul>	<p><b>Identify and Require Monitoring of Direct Impacts:</b> During the initial dredging and excavation, monitoring of the dredge output at the storage site, ODFW recommends the Applicant assess/estimate the magnitude (quantification of organisms in the dredge spoils) of impact to shellfish and non-game/game fishes.</p> <p><b>Require Applicant to conduct biological recovery assessments:</b> ODFW recommends a biological assessment of the JCEP deepwater access and slips be completed following construction to determine the degree that production of shellfish/gamefish will recover and stabilize. ODFW recommends this recovery assessment be scaled based on to productivity in undisturbed regions in the Bay (reference sites).</p> <p>ODFW recommends this information be provided to ODFW, NRTAG, local tribes, and other interested parties within one calendar year after construction of the slip and berth is completed and annually thereafter for a period of 10 years.</p> <p><b>Identify and require more detailed Mitigation/Monitoring/Adaptive Management:</b> While the direct impacts of initial construction are more easily identifiable, post-project indirect impacts are likely not. ODFW recommends this DEIS address appropriate monitoring/study plans for the project area and mitigation sites be developed by and formally agreed upon by the Applicant and pertinent stakeholders.</p> <p>The expected hydrological changes at the site due to the project development will potentially result in a number of changes to the biological communities at those locations (e.g. densities, species composition, predatory interactions, etc.).</p> <p>These changes may occur in areas adjacent to or a considerable distance from the project area where there is little or no construction</p>
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SA1-152

SA1-152 Dredging is discussed in section 4.2.2.1. As stated on page 4-359, impacts would be similar to those that currently occur during dredging activities by the COE every year. On average, the COE removes approximately 900,000 cubic yards of material every year. Jordan Cove would dredge approximately twice that amount. This would be a one-time event, and would be completed within the ODFW in-water window.

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			<p>activity (see Deepwater Zone recommendations below).</p> <p>Long-term monitoring/study (i.e. majority of the FERC certificate duration) is appropriate to understand/mitigate for ecological and biological changes associated with the project.</p> <p>Clarify in the DEIS if an extension of IWWW would be requested in accordance with the current ODFW/DSL Memorandum of Understanding.</p> <p><b>Clarification and recommendation re: cost:</b> ODFW recommends FERC clarify in this DEIS that costs for monitoring/studies and mitigation are borne by the Applicant.</p>
5	Chapter 4.4.2.1 pgs 358-365	<p><b>Invasive Species:</b> Invasive species are expected to flourish within the slip as with a result of disturbance. Throughout the world, aquatic invasive species are found most prominently in locations with low velocity or no current where transient ships dock. The information provided by DEA concerning ship hull coatings that are semi-resistant to attachment of invasives is noted. However, ODFW continues to have concerns that this slip will be an invasive species vector within the bay (given it will have low current, stable salinity, and hard substrate – sheet pile walls), and will continue over time to have the potential to vector new species into the Bay (e.g. fouling from ships).</p>	<p><b>Correct deficiency in analysis relative to Invasive Species:</b> Invasive species can be transported in ballast water and/or through attachment to the hulls of vessels. Ballast water management guidelines are a first line defense to prevent vectoring of invasives to Coos Bay. Adherence to these guidelines is of utmost importance in order to maintain the integrity of the Coos Bay ecosystem. ODFW recommends FERC require in section 5.2 that the Applicant monitor the slip and berth for colonization by invasives. ODFW recommends that if invasives are detected, the NRTAG be consulted on ecological risk and recommend measures that will be taken for elimination or control and changes to operations necessary to prevent future colonization should be implemented.</p>
6	Chapter 4.4.2.1 pgs. 358-365; 572	<p><b>Ballast/Cooling Water Uptake/Discharge:</b> ODFW understands that primarily ballast water will be discharged at the site as a result of the conversion of the project to an LNG export facility.</p>	<p><b>Include in DEIS identification of and recommendation for a Ballast Water Management Plan:</b> ODFW recommends this DEIS identify and that FERC require JCEP to develop a site-specific ballast water management plan for all vessels servicing the JCEP LNG plant prior to issuance of the FERC</p>

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SA1-153

SA1-154

SA1-153 The Coast Guard and EPA regulate ballast water discharge in accordance with federal law and the INTERNATIONAL CONVENTION FOR THE CONTROL AND MANAGEMENT OF SHIPS' BALLAST WATER AND SEDIMENTS.

SA1-154 As stated in section 4.6.2.1, ballast water is managed according to Coast Guard and EPA procedures. Available methods, including requiring screening, are governed by federal law and international agreement.

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	<p>However, if ballast water is be pumped onto vessels for any reason, potential for entrainment of fish and shellfish species (particularly during a planktonic larval life history stage) remains a concern. Additionally, engine cooling water will also be taken up and released in the berth.</p> <p>There is concern that uptake of water at the site will result in entrainment of fish into the ballast water intake system or ship engine intakes and ultimately cause mortality (take) of these individuals.</p> <p>Take of plankton will occur at the site, but has been discarded by the Applicant as not of significant importance.</p> <p>ODFW notes information collected by the Applicant-initiated plankton study (Shanks et al. 2010); indicating that uptake of plankton will have little impact on the Bay. However, ODFW continues to encourage efforts to address concerns for potential entrainment of organisms.</p> <p>Describes treatment of ballast water to be discharged while in berth, but does not specify what that treatment consists of.</p> <p>Cooling water uptake for ships in berth is est. 6.1 million gallons per visit; screen size is 24 mm (approx. 1"); this is not ODFW/NMFS criteria; juvenile fish are likely to be entrained.</p>	<p>license. ODFW recommends that the plan include effective methods for preventing, controlling, and eliminating recognized invasive species.</p> <p><b>Identify environmental harm associated with Ballast/Cooling Water Uptake:</b> Correct error that the take of plankton is "not significant" and identify ODFW's concerns related to nekton such as juvenile fish, crab megalope, and uptake of salmonids. ODFW recommends the following actions to address direct and indirect effects:</p> <ul style="list-style-type: none"> <li>Clarify treatment methodology for discharged ballast water while in berth.</li> <li>Clarify minimization measures to prevent uptake of nekton should ballast water intake occur.</li> </ul> <p><b>Require Screening of Water During Uptake:</b> This DEIS should identify, discuss and recommend that the Applicant must screen water that is taken in by vessels for cooling and released or taken up as ballast consistent with Oregon Department of Fish and Wildlife fish screening criteria. Development of screening methodologies can be coordinated with department Screening Coordinator Alan Ritchey (541) 947-6229; <a href="mailto:Alan.D.Ritchey@state.or.us">Alan.D.Ritchey@state.or.us</a>. There are important concerns for managing ballast water as a release of ballast water at the site will have significant adverse environmental impacts.</p> <p>Screening Criteria is included in the NOAA Passage Facility Design Criteria under section 11 starting on page 86 of <a href="http://www.nwr.noaa.gov/Salmon-Hydropower/FERC/upload/Fish-Passage-Design.pdf">http://www.nwr.noaa.gov/Salmon-Hydropower/FERC/upload/Fish-Passage-Design.pdf</a>. The ODFW screening criteria is available from the following website: <a href="http://www.odfw.state.or.us/fish/screening/in-deel.asp">http://www.odfw.state.or.us/fish/screening/in-deel.asp</a></p> <p><b>Recommend increase in Stakeholder Involvement:</b> ODFW recommends FERC include in Section 5.2 that JCEP/SDPP/PCGP</p>
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SA1-155 Turbidity, salinity intrusion, and water temperature are all discussed in section 4.6.2.1.

			<p>reconvene stakeholders through formation of the NRTAG to provide the input necessary to assess if the original goals of the plankton study (Shanks et al. 2010 already completed) have been met and if new direction would better address the concerns.</p> <ul style="list-style-type: none"> <li>This DEIS should indicate that concerns remain concerning invasive species and ballast water exchange despite export of gas rather than the original plan to import.</li> </ul>
7	Chapter 4.4.2.1 pgs. 358-361	<p><b>Hydrological/Water Quality Changes:</b></p> <p><b>Turbidity:</b> Mobilization of substrates will occur during the initial dredging and with continued regular disturbance associated with maintenance dredging (estimated 360,000 CY in the first 10yrs.; 36,000/yr.) within the project area.</p> <p>Turbidity will increase over an unknown portion of the Coos Bay during construction and when maintenance dredging is conducted. DEA comments relating to the Easement permit application indicated that dredging will occur on the regular two year interval when the remainder of the shipping channel is dredged. However, the slip and berth represent additional acreage that will be impacted over current levels and may require an increased dredging frequency. Additionally, the hydrodynamic modeling indicates the slip will become an alcove, likely collecting sediments at a greater rate than the main shipping channel.</p> <p>Increased turbidity levels can result in suppression of primary production, affecting a number</p>	<p><b>Hydrological/Water Quality Changes:</b> DEIS should be amended to reflect that ODFW anticipates three changes in the hydrology/water quality of the site that will impact fish and wildlife due to the JCEP/SDPP/PCGP Coos Bay development: (A) Turbidity; (B) Salinity intrusion; and (C) Water temperature changes, and include the following information.</p> <p><b>Turbidity:</b> can reduce primary and secondary productivity, while salinity intrusion can have a myriad of effects (e.g. change in species distribution, invasive species colonization ability, reproduction changes).</p> <p>The DEIS should identify that further information is needed to determine if increased salinity intrusion has the potential to change the ecological conditions in Coos Bay to a notable degree.</p> <p>The DEIS should identify that further information is needed to determine if discharged cooling water will impact aquatic resources in the slip due to temperature changes.</p> <p><b>Include in DEIS identification of and recommendation for Long-Term Biological and Hydrological Monitoring:</b> ODFW recommends FERC identify, discuss and recommend a monitoring/study plan be developed in collaboration with the NRTAG and ODFW. This plan should include:</p> <ul style="list-style-type: none"> <li>Biological information (e.g. abundance, species composition, behavior; for both</li> </ul>

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	<p>of ecological factors:</p> <ul style="list-style-type: none"> <li>• Survival and growth of estuarine plankton (Cloern 1987; Irwin and Claffey 1966).</li> <li>• Potential effects to feeding capability and subsequent reduction in planktivorous organisms (Carter et al. 2009; Horppila et al. 2004; Bash et al. 2001).</li> <li>• Survival and growth of species such as eelgrass are affected by factors that decrease total solar input and depth to which light penetrates into the water column.</li> <li>• Potential reduction in production of mollusks, Dungeness crab, juvenile coho, Chinook salmon and other species.</li> <li>• Comments received from DEA on 01/07/11 have been considered.</li> </ul> <p><b>Salinity Intrusion:</b> It was unclear during the FERC process if deepening of the main Coos River shipping channel would be conducted in combination with creation of the deepwater zones at the JCEP site. The DEIS should so clarify. DEA comments received on 01/07/11 relating to the JCEP Easement permit indicated that there will not be deepening of the main Coos River channel associated with the JCEP. There does, however, continue to be potential for elevated levels of maintenance dredging to the slip and berth. The Applicant noted that hydrologic modeling has indicated sediments will likely accumulate at an accelerated rate in the berth area. The DEIS should be amended to reflect</p>	<p>native and invasive species) project in the bay.</p> <ul style="list-style-type: none"> <li>• Hydrological information (turbidity, salinity intrusion, water temperature changes) and specifically address ecological impacts related to the deepening of the JCEP site due to dredge activities.</li> <li>• Modeling that has been conducted by the Applicant to date has been informative. However, it may not accurately and precisely predict what actual post-construction hydrologic and ecological condition will be. The study should use an experimental design that includes before and After Controlled Impact techniques aimed at elucidating changes in shallow and deepwater communities, correlations between biological indices, and hydrological changes.</li> </ul> <p>ODFW recommends that this plan ensure all three factors (e.g., (A) Turbidity; (B) Salinity intrusion; and (C) Water temperature changes) are monitored and addressed in the following ways:</p> <p><b>Predictive Hydrologic Model:</b> ODFW recommends the Applicant(s) consultant(s) develop a predictive hydrologic model to estimate how creation of the slip and maintenance dredging of the main Coos River channel will affect salinity intrusion into the bay (<i>ODFW recognizes the efforts of the Applicant that have been completed to date, however, these focus primarily on hydraulic flow rather than salinity patterns</i>). This model should be developed and distributed for review to the NRTAG and ODFW prior to initiation of construction at the site.</p> <p><b>Inclusion of Hydrologic Factors in the Monitoring Plan:</b> ODFW recommends the Applicant develop a monitoring plan (in combination with the biological monitoring plan as described above) in collaboration with ODFW/NRTAG to study/quantify/qualify: Turbidity effects;</p>
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	<p>accurate information, including that to date, the Applicant has not modeled the potential that actions of the JCEP will increase the distance to which highly saline waters intrude into Coos Bay and the effects to residence time of highly saline waters.</p> <p>Increased salinity intrusion likely would affect Category 2 habitats in the JCEP area, but also in an unknown portion of the remainder of the bay. Effects may include:</p> <ul style="list-style-type: none"> <li>• Ecotone boundary changes altering aquatic plant growth patterns and distribution.</li> <li>• Distribution changes for plant and animal organisms vulnerable to salinity levels.</li> <li>• Changes to the available zones for reproductive success (e.g. Dungeness crab, striped bass <i>Morone saxatilis</i>).</li> <li>• Phytoplankton community productivity change related to nutrient regime shifts (i.e. the time of year freshwater dominates for a given reach of the Bay).</li> </ul> <p>Saline intrusion associated with increased dredging in the 1980's was thought to have had an impact on several species in the Bay including striped bass and American shad (<i>Alosa sapidissima</i>), although study results were inconclusive.</p> <p>The impacts that this intrusion would have on native shellfish and finfish species such as fall Chinook, coho salmon, Dungeness crab, and native oysters cannot be modeled and would only be detectable</p>	<ul style="list-style-type: none"> <li>• Salinity intrusion effects;</li> <li>• Water temperature issues at the site.</li> </ul> <p>ODFW recommends this monitoring/study plan be developed in collaboration with the NRTAG/ODFW. Studies outlined in the plan should be completed for a time period necessary to meet the goals, which should be determined in collaboration with the NRTAG/ODFW.</p> <p><b>Data Sonde Network:</b> As part of the monitoring plan, ODFW recommends:</p> <ul style="list-style-type: none"> <li>• A network of data sondes be deployed to collect data on A) Turbidity; B) Salinities; C) Water temperature both at the surface and depth.</li> <li>• If salinity intrusion, thermal changes, or turbidity are determined to impact fish and wildlife resources, mitigation should be appropriately identified by the JCEP, ODFW and NRTAG consistent with OAR 635-415-0000 through 0025.</li> </ul>
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		<p>through real-time monitoring. The DEIS should identify and discuss this fact.</p> <p>Productive commercial oyster farms, which occur in euryhaline waters upstream of the project site, are currently protected from many fouling organisms and predators that occur in more stable salinities. Further intrusion of salt water will contribute to more stenohaline waters thus presenting new risk to a currently economically viable industry. The DEIS should identify and discuss this fact.</p> <p>Effects of the dredging may be detectable over the entire bay. Mitigation at the Kentuck site is not In-Kind when considering salinity intrusion. Ecological benefits at the Kentuck site would not be able to compensate for impacts that increased salinity could have throughout the Bay. Some understanding and determination of changes in salinity pattern (e.g. results from a salinity study), could guide adaptive management/mitigation.</p> <p>Water Temperature: Ships loading at the facility will discharge heated engine cooling water that may be as much as 3 C warmer than the surrounding water. Fish that come in direct contact with this plume will experience stress. ODFW recognizes that significant cooling of this water will occur soon after it is released from the vessel and sees this issue as less concerning, however, ODFW remains concerned regarding potential for</p>	
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SA1-156 Information has been added to the FEIS.

SA1-157 See the recommendation in section 4.6.2.2 of the FEIS.

		deleterious effects and the potential needs to be identified and analyzed in this DEIS.	
8	Chapter 4 pg. 557; 563	<p><b>Species Omissions:</b> DEIS does not mention Northern Anchovy (<i>Engraulis mordax</i>) species present in Coos Bay.</p> <p>For marine mammals, DEIS lists harbor seals but fails to list California sea lions (<i>Zalophus californianus</i>) that are also present near Jordan Cove.</p>	<p><b>Species Omissions:</b> Correct the DEIS to include Northern Anchovy as species present in Coos Bay and add California Sea lions to list of marine mammals near JCEP.</p>
9	Chapter 4.4.2.1 pgs. 358-361; 4-pg. 573; 4-pg. 585; 4-631	<p><b>Deepwater Zone Biological Communities:</b> Construction of the JCEP LNG slip and offloading site will create a new deepwater zone that is 25+ft in depth:</p> <p>This new deepwater zone will be constructed at 90° to the axis of the river channel forming a type of alcove morphologic feature that currently does not exist in Coos Bay. Deepwater zones that exist in Coos Bay tend to attract specific species compositions (e.g. white sturgeon, Dungeness crab, California halibut). However, these deepwater zones are in line with the main flow of the channel. Due to the location and hydrologic patterns associated with this new alcove, there needs to be monitoring to determine the species benefitted and or detrimental effects.</p> <p>The slip area will be highly disturbed during dredging and recover slowly, with re-disturbance at regular intervals associated with maintenance dredging. Installation of rip-rap and sheet-pile in the berth are expected to maximize the simplicity of the zone inhibiting the productive capacity for fish</p>	<p><b>Identify and analyze proposed action's impact on deepwater zone:</b> It is critically important to disclose to the public and decision-makers what impacts the development of a large "alcove" deepwater zone at the JCEP site will have on finfish and shellfish populations. Changes may occur to life-history patterns, movements, concentrations, overall abundance, and perhaps reproductive aspects of affected organisms in the Bay. Identifying these changes will also be essential to development of a mitigation plan to compensate for negative impacts as they occur and are detected.</p> <p>ODFW recommends FERC require in Seciton 5.2 that the Applicant design and conduct specific studies through coordination with ODFW and NRTAG to determine these changes or lack thereof.</p> <p><b>Include created "Deepwater Zones" as a Main Factor in Monitoring Study:</b> As described above long-term monitoring is critical to define the effects of this substantial proposed change to habitats in Coos Bay.</p> <p>ODFW recommends FERC require the Applicant to study of the effects on an on-going basis through the majority of the license period.</p> <p>ODFW recommends this study attempt to document changes to populations including,</p>

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	<p>and wildlife.</p> <p>Consequently, ODFW is concerned with how construction of this site will affect life cycle patterns, population concentrations, overall abundance, and movements of certain affected species in Coos Bay. All of these issues are not adequately disclosed or analyzed in this DEIS. Specifically, e.g. will additional deepwater zone in this region of the bay affect the following:</p> <ul style="list-style-type: none"> <li>• Finfish/shellfish species densities in the JCEP area and other regions of the bay. If change occurs, how will this affect production of affected species in relation to current levels (e.g. predator-prey relationships with avian predation of salmonids, seal and sea lion predation to salmonids; avian predation to finfish)?</li> <li>• Competitive interactions associated with the value or lack of value of the slip. Additionally, it is of concern if the slip will become a zone of higher density of predatory fishes.</li> <li>• Recreational opportunities related to current finfish/shellfish distributions (e.g. alteration of the distribution of Dungeness crab; salmon movement changes; influx of larger rockfish; etc.).</li> </ul> <p>Incorrect Ecology:</p> <ul style="list-style-type: none"> <li>• The DEIS indicates that "Juvenile salmonids migrating would likely be in main channel, not off-channel slip."</li> </ul>	<p>but not limited to: change in species diversity, abundance, behavior, distribution, and species composition caused by the project.</p> <p>ODFW recommends Before and After Control Impact (BACI) study methods be used to provide before, after, and control structure for the investigations.</p> <p>ODFW recommends the Applicant receive guidance from ODFW/NRTAG for methods and timing (beginning, sampling frequency, and ending) for these studies. Study results should be distributed annually to ODFW/NRTAG, other interested agencies/parties.</p> <p><b>Biological recovery assessments:</b> ODFW recommends FERC require Applicant to conduct a biological assessment of the JCEP deepwater access and slips be completed following construction to determine the degree that production of shellfish/finfish will recover and stabilize. This requirement should be discussed in the DEIS.</p> <p>This recovery assessment should also be scaled on a percentage basis compared to productivity in undisturbed regions in the Bay.</p> <p>ODFW recommends reports be completed annually and information provided to ODFW, NRTAG, local tribes, and other interested parties within one calendar year after construction of the slip and berth is completed and annually thereafter for a period of 10 years.</p> <p><b>Correct errors in DEIS regarding local ecology:</b> The DEIS needs to fully acknowledge the potential for use of the slip by juvenile salmonids and other fish or invertebrate species and monitor, and mitigate for use of terminal slip impacts to these species. The DEIS should acknowledge and consider</p>
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		<p>Disagree—juvenile salmonid use of estuary includes feeding, rearing, foraging, in off-channel wetlands, sloughs, and other slow water areas. These fish may seek out low-velocity areas, including the terminal slip.</p> <ul style="list-style-type: none"> <li>DEIS states: "It is possible that killer whales, porpoises, and pinnipeds could be found in Coos Bay." They are present...pinnipeds frequently, cetaceans occasionally but commonly. Other species of whale have been rare visitors to Coos Bay, a few even travelling up-bay to the City of Coos Bay and beyond.</li> </ul>	<p>presence of Killer Whales and other whales.</p>
10	<p>Exec. Sum.- pgs. 10; 4-715; incl. Figure 4.8-1; Chapter 4-718; 4-719; 797</p>	<p><b>Recreational Users:</b> It is ODFW's understanding that the U.S. Coast Guard typically requires exclusion zones of up to 500 yards surrounding LNG tankers transiting the bay and potentially while at dock for safety and national security purposes. The DEIS does not disclose nor address this very serious potential impact to recreational and commercial boat and/or bank use of Jordan Cove and the surrounding bay areas. Any such actions by the US Coast Guard would likely result in a severe impact to public recreation for fishing, shellfish, or hunting which should be analyzed as part of the cumulative impacts of the project and fully mitigated for should they occur.</p> <p>DEIS states that LNG ship traffic would not significantly impact recreational users because the # of vessels would equal the</p>	<p><b>Clarify risks to recreational users:</b> This DEIS must disclose and analyze the risks presented by the proposed action to recreational users and associated impacts, and ODFW recommends FERC clarify safety/security requirements to protect recreational boaters when LNG ships are in transit within the K Buoy to terminal zone, specifically including any such future safety or national security exclusion zones likely to be implemented by the U.S. Coast Guard or any other state of federal enforcement agency.</p> <p>This DEIS must acknowledge and consider the recreational value of the Jordan Cove and Coos Bay estuary; and specifically consider impacts to recreational salmon fishery, crabbing, and other boating during construction, dredging, and LNG ship transit, specifically within the context of the above described U.S. Coast Guard restrictions likely to occur.</p> <p>The DEIS should include an economic analysis of the shellfish (crabbing/clamming) and finfish (rockfish, salmon, steelhead) fisheries in Coos Bay, their contribution to the economics of Coos County and Southwest</p>

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SA1-158

SA1-158 Effects on recreational boating and fishing are described in section 4.8.1.1. As noted in the DEIS, the number of ships is not out of proportion to the number of large ships that used the waterway in the past.

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	<p>historic # of deep-draft ships that once called on Coos Bay. This statement is erroneous and should be corrected. The DEIS fails to take into account that:</p> <ul style="list-style-type: none"> <li>• Recreational use of the Bay has increased, with greater numbers of crabbers, clammers, and anglers participating.</li> <li>• The area from the jetties to Jordan Cove is a high-use area for crabbing and salmon angling from boats.</li> <li>• It is uncertain whether or not USCG security/safety measures will require boats to completely leave the area, or simply require boats to clear the navigational channel to allow the ship to pass.</li> </ul> <p>DEIS failed to identify Coos Bay proper as a recreation area (hunting, fishing, clamming, crabbing, boating, paddle surfing, surfing, etc.). According to OSMB 2008 report, most recreation, Boating in Coos Bay occurs in summer--possibly more boating now in fall (salmon angling/crabbing).</p> <p><b>Socioeconomics</b>—The DEIS indicates that the: "JCEP would not have direct impacts on any federal, state, or local parks or recreational areas or facilities." USCG safety/security zone around LNG vessels in transit is 500 yards (0.28 miles). Navigational channel passes within 500 yards of Charleston Marina/Boat Ramp, Empire Boat Ramp, BLM North Spit Boat Ramp, and the entire Coos Bay is a recreational area. Construction, dredging, and LNG</p>	<p>Oregon and address the potential impacts of the JCEP. NEPA requires disclosure and analysis of the economic impact to these recreational opportunities and the local businesses that depend on them because it is directly related to environmental concerns.</p> <p>The DEIS should also include a FERC recommendation that requires the Applicant to mitigate for any such loss of recreational access and associated economic impact to local business and the local economy from the resulting lost recreational opportunity.</p>
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SA1-159 Information has been added to the FEIS.

SA1-160 The COE is responsible for mitigation due to effects to wetlands.

		vessel transit will have impacts on recreational areas and facilities. Overcrowding currently occurs at lower Bay boat ramps during peak of salmon fishery. Displacement of boating/launches during LNG vessel transit or construction could exacerbate boat launch overcrowding.	
11	Chapter 4.pg. 546; 4.pg. 547; 4.5.1.1-1 pg. 436; 5.2 pg. 32, Mitigation item #31; pg 32, Item #51; 5-pg. 42, Item #105, 106	<p><b>Aquatic Resources:</b> The DEIS does not mention importance of estuary for rearing/emigration of juvenile salmonids; did not mention California Halibut, known to inhabit the area near Jordan Cove; DEIS writers used ODFW's 2005 Native Fish Status Report for lists/status of fish species.</p> <p><b>Omissions:</b></p> <ul style="list-style-type: none"> <li>• ODFW should be identified as an "appropriate agency" with regard to consultation on the Wetland Mitigation Plan.</li> <li>• ODFW should be identified as an "appropriate agency" with regard to consultation on the Aquatic Species Nuisance Treatment Plan.</li> </ul>	<p><b>Correct errors in discussion relevant to Aquatic Resources:</b> DEIS should use most up-to-date species status, which has changed for some species since 2005 report (see other column).</p> <p><b>Correct omissions/errors as follows:</b></p> <ul style="list-style-type: none"> <li>• Clarify ODFW's role/authorities for requiring wetland habitat mitigation. State that ODFW is an "appropriate agency" with regard to consultation on Wetland Mitigation Plan.</li> <li>• Clarify ODFW's role/authorities for Aquatic Nuisance Species prevention/mitigation. State that ODFW is an "appropriate agency" with regard to consultation on the Aquatic Species Nuisance Treatment Plan.</li> <li>• State in DEIS that "...mortality or sub-lethal injury to fish or wildlife species," is information that needs reported to ODFW.</li> <li>• Disclose and require that the JCEP project report to FERC any abnormal operating incidents that result in harassment or mortality of fish and wildlife species.</li> </ul>
12	Chapter 4.4.2.1 pgs. 358-361 4.4.3.1-1 Pg 408-410 4.6.1.1-1 pg. 495	<p><b>Kentuck Mitigation Site:</b> The former Kentuck golf course lands have been identified by the Applicant for restoration. These lands would be reestablished as estuary in order to provide mitigation for the dredging impacts that will occur at the JCEP slip and access channel. The Kentuck golf course lands currently are degraded wetlands</p>	<p><b>Disclose the deficiencies and uncertainties associated with the Kentuck Mitigation Site:</b> In order to maximize the ability of the Kentuck mitigation site to provide compensation for ecological and recreational resources impacted at the JCEP/SDPP/PCGP Coos Bay project area location, the DEIS should identify and recommend the following as mitigation in Section 5.2:</p> <p><b>Public Access:</b> FERC should require that</p>

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	<p>that were historically de-watered through diking and tidegate management, eliminating the connection with the estuary. Although there may be sufficient acreage at this site to meet the DSL 3:1 restoration ratio for dredging impacts at the JCEP site, a number of potential impacts (e.g. salinity gradient issues, changes in bay turbidity, creation of a deepwater zone) that will occur at the JCEP will not be compensated in-kind as the salinity gradients are out of the range that is present at the project location.</p> <p><b>Public Access:</b> Is currently allowed at the Kentuck Mitigation site and on the water at the JCEP/SDPP LNG project area of the bay. The DEIS should disclose this fact. Recreational access to the estuary and shoreline habitats of the bay is an important component of the local economy. It is expected that the security zone in the JCEP project area following construction will significantly reduce public use of the bay and adjacent uplands. The mitigation site will need to accommodate the elimination of public access at the JCEP site through allowing open public access.</p> <p>Saline waters will move upstream into the Kentuck mitigation site via restoration actions allowing more viability of mariculture (i.e. Pacific oyster farming). The effective area available for expansion of mariculture will not only be within the new mitigation site, but there will also be an increase in the particle range (i.e.</p>	<p>public access be made available and encouraged at the Kentuck mitigation site in order to attempt to provide compensatory opportunities in replacement for loss or reduction of access at the JCEP/SDPP/PCGP Coos Bay site.</p> <p>FERC should require construction of a public parking area off of East Bay Drive as part of the mitigation site development. (There is opportunity to develop parking without filling wetlands at the site.)</p> <p>Provision for recreational opportunities at the Kentuck golf course site, although not precisely In-Kind, may partially compensate for losses at the JCEP site and should be fully investigated. ODFW recommends, specifically, that opportunities for hunting, recreational shellfish harvest and wildlife viewing be identified and implemented in collaboration with local constituents.</p> <p><b>Restrict Commercial Oyster Cultivation:</b> ODFW recommends careful consideration of restricting commercial oyster cultivation from the Kentuck mitigation site as a condition of the DSL permit.</p> <p>The spread of the footprint of mariculture operations just down Bay (defined as within ¼ mile) from the mitigation site may retard the creation of this restored estuarine habitat in Kentuck Slough. These types of mitigation may not be effective in the context of future expansion of mariculture, which would likely defeat mitigation goals.</p> <p><b>Collaboratively Finalize Kentuck Mitigation Plan:</b> ODFW recognizes that a draft mitigation plan has been submitted; however, there are a number of specific actions at the site (e.g. how Kentuck Creek will be routed through the site, whether the elevational relief of the site will be modified, etc.) that will affect the ecological function of the site. These specific details will affect ecological function of the required</p>
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		drift of Oyster spat) of these operations up bay. Although it will likely be practical for oyster cultivation on the mitigation site, this would be counter-productive to the intended goals of mitigating for fish and wildlife.	<p>mitigation.</p> <p>ODFW recommends the FEIS disclose this uncertainty and require that the Kentucky Mitigation Plan be completed collaboratively with input, review, and approval of ODFW.</p> <p><b>Require additional coordination with ODFW:</b> FERC should require the Applicant to coordinate during the development/construction of the Kentucky Mitigation site so that ODFW will be able to provide the Applicant with recommendations for specific on-site adjustments and actions to maximize ecological function in order to appropriately reduce these significant environmental impacts to less than significant levels.</p> <p><i>The DEIS notes that there will be 43.6 acres of estuarine wetland/wetland mitigation completed at the Kentucky site (DEIS 4.6.1.1-1 pg 495). It is the understanding of ODFW that less than 40.0 acres at the site have the elevation that will allow for tidal influence. If greater than 40.0 acres is needed for estuarine mitigation another location may need to be purchased and restored to meet mitigation needs of the JCEP project.</i></p>
13	Chapter 2.0 pgs. 83, 84; 4.0-pg. 570	<p><b>In-Water Dredging/Work:</b> The DEIS outlines that dredging of the bay, placement of sheet pile, etc. will occur. At this particular site there is some potential that Pacific smelt (eulachon) may be in this reach of the bay from January 15 until April annually. Although the presence of eulachon is considered highly unlikely.</p> <p><b>In-Water-Work Windows (IWWW)</b> reduces exposure of juv. Salmonids". Does not indicate IWWW importance to marine fish and shellfish species.</p>	<p><b>Require compliance with ODFW's In-Water Dredging/Work Period:</b> The DEIS outlines the project's intent to complete work below the high tide zone, but it does not disclose, analyze nor require that these actions coincide with the In-Water Work window for the Coos Bay estuary (October 1 to February 15). FERC should rectify these errors to appropriately mitigate for significant environmental impacts of the proposed action in an enforceable and sufficiently detailed manner.</p>

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SA1-161

SA1-161 The comment is not correct. Dredging is discussed in section 4.2.2.1. As stated on page 4-359, all work would be completed within the ODFW in-water window.

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SA1-162 Comment noted. The applicant is required to consult with ODFW in developing their habitat mitigation plan.

UPLAND AND FRESHWATER WETLAND COMMENTS BY ITEM

1	<p>DEIS 2.2.2 pgs. 77-80; 2.3.1 pgs. 83-84; 4.5.1.1-1 pgs. 436; 5.2 pgs. 32, Mitigation item #31; pg 32, Item #51; 5-pg. 42, Item #105, 106</p>	<p><b>Habitat Loss:</b> ODFW recognizes that a substantial proportion of the upland habitats at the JCEP/SDPP sites adjacent to the bay are not in pristine condition. However, they have been in a relative state of quiescence for more than a decade and are predominantly considered Category 3, 4, and 5 habitats (per OAR 635-415-0000 through 0025). A substantial component of forested dune habitat remains in Category 3 condition at the site. The Applicant and Department have worked extensively in 2013 and 2014 to attempt to reach final consensus on the quantity of the various Habitat Categories on the JCEP and SDPP areas. The JCEP and SDPP projects will have deleterious impact on at least 38.0 acres of freshwater wetlands and 261 acres of upland habitats at the site. These lands will be altered from their current condition through several pathways including:</p> <p>Conversion of terrestrial lands into submerged lands.</p> <p>Elimination of the viability of remaining dune and forested dune habitats (largely due to encroachment, removal, disturbance, etc.) and reduction in the viability of immediately adjacent habitat as a result of construction of the LNG storage tanks and pipeline network, installation of road networks to support the site, and direct forest clearing of at least 90.0 acres.</p>	<p><b>Correct omissions relevant to potential habitat loss:</b> ODFW fully recognizes a substantial proportion of upland habitats at the site are not in pristine condition. However, valuable wildlife habitat remains on the JCEP/SDPP property and historically impacted habitats have been in a relative state of quiescence for more than a decade.</p> <p>ODFW recommends the Applicant continue to develop the upland mitigation package to fully compensate for the proposed loss of upland and freshwater wetland habitat and wildlife production in accordance with OAR 635-415-0000 through 0025. (ODFW notes the efforts to date Appendix S. of the DEIS)</p> <p>ODFW recommends the HMP developed by the Applicant be consistent with OAR 635-415-0000 through 0025 in collaboration with Department staff Department and reviewed by the NRTAG.</p> <p>Correct omissions/errors as follows:</p> <ul style="list-style-type: none"> <li>• Clarify ODFW's role/authorities for requiring wetland habitat mitigation. State that ODFW is an "appropriate agency" with regarding to consultation on Wetland Mitigation Plan.</li> <li>• Clarify ODFW's role/authorities for Aquatic Nuisance Species prevention/mitigation. State that ODFW is an "appropriate agency" with regard to consultation on the Aquatic Species Nuisance Treatment Plan.</li> <li>• State in DEIS that "...mortality or sub-lethal injury to fish or wildlife species," is information that needs reported to ODFW.</li> </ul>
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		<p>The DEIS should disclose that impacts to the uplands and wetlands at the JCEP/SDPP sites will essentially render much of the affected habitat areas incapable of supporting the native plant and wildlife species that currently occupy the site due to a number of factors including, but not limited to:</p> <ul style="list-style-type: none"> <li>• Direct removal and disturbance (e.g. disturbance factors such as ship moorage/loading activities and road traffic, machinery and compressor noise). The DEIS notes that during construction sound levels will be at 47 to 57 A-weighted decibels. "We predict that operational noise from the LNG terminal would have an equivalent sound level (Leq) of 42 dBA and day-night sound level (Ldn) of 48.4 dBA when measured about 1.4 miles away" Chapt 4.6.1 pg 506. This is noted as similar to the city of North Bend</li> <li>• Alteration of the surfaces through paving, placement of gravel, removal of the organic layer on the sandy soils, etc. that eliminate capacity of the habitats to support fish and wildlife</li> <li>• Invasion of competitive plants and non-native or native plant and animal colonists such as crows, starlings, and Scotch broom (<i>Sarothamnus scoparius</i>) that result in a loss of habitat capacity due to competitive interactions.</li> </ul>	
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SA1-163 See the applicant's Migratory Bird Conservation Plan and Habitat Mitigation Plan.

2	Chapt. 4.5 pg. 521	<p><b>Nest Site Searches:</b> The Applicant has identified that nest site searches will be conducted prior to tree clearing to eliminate the risk that trees will be cut during nesting season, (although they will be harvested at a later date).</p> <p>There are a number of other birds with sensitive nest sites as designated by the Oregon Forest Practices Act including: blue heron, and osprey.</p>	<p><b>Require nest site searches be conducted by qualified, trained personnel:</b> FERC should require in Section 5.2 that Applicant have qualified, trained staff complete surveys for Great Blue Heron Rookeries and Osprey nest sites prior to any timber harvest or pipeline construction at the appropriate time of year to complete surveys.</p>
3	Chapter 2.2.2 pgs. 77-80; 2.3.1 pg. 83-84; 4.5.1.1-1 pg. 436	<p><b>Exotic Plants and Wildlife:</b> Disturbed soils and removal of vegetation at the site combined with the installation of artificial tanks/pipeline/other structures will present opportunity for invasion of non-native plants and are anticipated to result in further loss of habitat for native wildlife species (e.g. replacement of mourning doves <i>Zenaidura macroura</i> with ring-necked doves <i>Streptopelia capicola</i>; native sparrows with house sparrows <i>Passer domesticus</i> and European starlings <i>Sturnus vulgaris</i>). There is also concern that corvid bird species (ravens, crows, jays) that are predators on snowy plover (<i>Charadrius alexandrinus nivosus</i>) may benefit from the project. Often, exotic invasive species have a higher tolerance for direct association with humans; benefit from food wastes associated with daily human activities, and will potentially use perching and nesting opportunities that may become available due to this project, furthering displacement of native species.</p>	<p><b>Disclose impacts to exotic plants and wildlife and recommend mitigation to same:</b> ODFW recommends FERC require the Applicant to continue development and implantation of an upland invasive plant management plan in collaboration with ODFW and NRTAG to assist with concerns such as minimizing the potential for inadvertently benefiting exotic plants and wildlife. BMPs might include actions to minimize garbage and other human related factors that could lead to increased presence of exotic or otherwise undesirable predatory bird species such as starlings or corvids.</p>

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4	Chapter 2.2.2 pgs. 77-80; 2.3.1 pgs. 83-84; 4.5.1.1-1 pgs. 436	<b>Habitat Fragmentation:</b> ODFW recognizes that a number of acres of upland habitats at the site have been impacted from previous industrial activity and currently are classed as predominantly Category 3, 4, and 5 habitats. However, the value of upland habitats and wetlands in the vicinity of the JCEP/SDPP will not only be affected by direct facility impacts, but also by the institution of daily human disturbance that will likely occur post-construction during the operations at the site. Creation of the slip/berth and associated LNG facility will further fragment the North Spit peninsula. Peninsula type habitats are uniquely rare on the Oregon Coast. Furthermore the adjacent wetland and forested dune habitats (Category 2 and 3) will be affected by activities at the site.	<b>Disclose potential for habitat fragmentation and require mitigation for same:</b> ODFW recommends that: <ul style="list-style-type: none"> <li>• The DEIS identify that the mitigation final plan will specifically address measures to reduce fragmentation of habitat(s) at the site and adjacent to the site.</li> <li>• The mitigation plan should be required to outline mitigation options by habitat Category consistent with OAR 635-415-0000 through 0025.</li> </ul>
5	Chapter 2.2.2 pgs. 77-80; 2.3.1 pgs. 83-84; 4.5.1.1-1 pgs. 436  and  Appendix S pgs. 1-16	Replacement/creation of affected upland habitats will be very difficult to accomplish. However, mitigation/enhancement of In-Kind, In-Proximity existing habitats might be attainable and provide the desired compensation of habitat functions and values. ODFW notes the comments received from DEA relating to the Applicant's efforts to locate suitable mitigation lands and is supportive of these coordinated efforts with ODFW from 2011-2014.	<b>Require mitigation that results in "net benefit" for impacted habitats:</b> Mitigation efforts and or enhancement of upland and freshwater wetland habitats similar to those affected at the JCEP/SDPP: <ul style="list-style-type: none"> <li>• It is the recommendation of ODFW that the project proponents/affiliate continue with development of the Wildlife, Wetland, and Estuarine mitigation efforts with the goal of developing mitigation the results in a "Net Benefit" for habitats impacted at the JCEP site.</li> <li>• Require that all mitigation actions are consistent with the Fish and Wildlife Habitat Mitigation Policy (OAR 635-415-0000 to 0025).</li> </ul>

SA1-164

SA1-164 See the applicant's Habitat Mitigation Plan and the FERC requirement that they formulate this plan in consultation with appropriate resource agencies such as the ODFW.

SA1-165

SA1-165 See the applicant's Habitat Mitigation Plan and the FERC requirement that they formulate this plan in consultation with appropriate resource agencies such as the ODFW.

**Literature Cited**

Kentula, M. E., and T. H. DeWitt 2003. Abundance of Seagrass (*Zostera marina* L.) and Macroalgae in

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Relation to the Salinity-Temperature Gradient in Yaquina Bay, Oregon, USA. Estuaries Vol. 26, No. 4B, p. 21130-1141. August 2003.

ODFW 2006. Oregon Department of Fish and Wildlife unpublished shellfish harvest data  
<http://www.dfw.state.or.us/fish/commercial/>

Runyan, D., and Associates 2009. Fishing, Hunting, Wildlife Viewing, and Shellfishing in Oregon, 2008. Prepared for Oregon Department of Fish and Wildlife, Dean Runyan Associates 833 SW 11th Ave., Suite 920 Portland, Oregon 97205. [www.deanrunyan.com](http://www.deanrunyan.com). Thom, R. M., A. B. Borde, S. Rumrill, D. L.

Woodruff, G. D. Williams, J. A. Southard, and S. L. Sargeant  
2003. Factors Influencing Spatial and Annual Variability in Eelgrass (*Zostera marina* L.) Meadows in Willapa Bay, Washington, and Coos Bay, Oregon Estuaries. Estuaries Vol. 26, No. 4B, p1117-1129. August 2003.

#### PACIFIC CONNECTOR PIPELINE PROJECT COMPONENT

**Introduction:** The following narrative is intended to set the general context for the specific comments and recommendations set forth below in the table. The DEIS should be modified to include the following information to correct the present deficiencies and errors.

The Jordan Cove Energy Project (JCEP) and Pacific Connector Pipeline Project (PCGP) DEIS outlines proposed construction of a 36" steel gas pipeline from the North Spit of Coos Bay, Oregon (232 miles) to Malin, OR in order to connect the JCEP liquefied natural gas (LNG) energy export facility to the Ruby LNG pipeline carrying gas primarily from the Rocky Mtn. region. The PCGP project would result in an estimated temporary and permanent fill of 39,117 cubic yards (CY) of material in waters below Ordinary High Water (OHW) and 87,454 CY of disturbance to wetlands. A notable proportion of this disturbance would occur during open channel placement of the pipeline through Haynes Inlet Category 2 (Essential and Limited) habitat, and Category 3 and 4 habitats; as defined in Oregon Department of Fish and Wildlife (Department) Habitat Mitigation Policy OAR 635-415-0025 [www.dfw.state.or.us/OARs/415.pdf](http://www.dfw.state.or.us/OARs/415.pdf)). A substantial proportion of the route will be placed on slopes exceeding 50%, and remove vegetation from the riparian corridor of 101 perennial streams, 164 intermittent streams, and incur disturbance to a total of 401 waterbodies. The DEIS indicates the project will have 5,916 total acres of disturbance proposed to occur in six watershed basins including the Coos, Coquille, South Umpqua, Upper Rogue, Upper Klamath, and Lost River. The project is planned to cross multiple rivers, streams, and waterbodies utilizing a variety of crossing methods including but not limited to: Wet Open-Cut; Dry Open-cut; Conventional Bore; Horizontal Directional Drill (HDD); and the potential to need in-water blasting techniques at various stream locations yet to be determined.

**Aquatic Discussion:** The aquatic habitats in Haynes Inlet of Coos Bay have been impacted historically from dredging, rip-rap installation, upland and tidal mudflat leveling, filling of tidal wetlands/saltmarsh, and other development/utilization impacts. However, substantial recovery of ecological potential has occurred due to improvements in forest management (reducing sediment inputs) and regulations conserving wetlands and waterways. The current and desired future condition of the 401 waterbodies that will be affected by the pipeline is predominantly linked to management actions in the riparian habitats and adjacent uplands. Many of the streams that will be impacted by the pipeline have been

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SA1-166 See the applicant's Habitat Mitigation Plan and the FERC requirement that they formulate this plan in consultation with appropriate resource agencies such as the ODFW.



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ecologically degraded historically by a number of human impacts including: removal of native coastal riparian forest, road construction with subsequent chronic sediment contribution, and debris torrent/mass-wasting events related to forestry activities. The majority of these streams, many of which are critical for native salmon, trout, sculpin, lamprey, and other aquatic species production, are in a gradual trend of recovery following management guidelines and Best Management Practices implemented from 1970-1992 through agency and private ownership coordinated efforts (Oregon Coast Coho Conservation Plan; ODFW 2007). Actions such as pipeline construction and maintenance with associated long-term disturbance introduce an added burden inhibiting ecological recovery. Pipeline stream crossings have the potential to negatively affect watercourse ecosystems through alteration of channel beds and banks, increasing total suspended solids (TSS), alteration of substrate size and quantity in the reach and changes to the immediate area benthic community. These impacts can result in deleterious impacts for fish due to decreased food availability, changes in foraging range, increasing predation, aquatic habitat simplification, and decrease in overall health.

The species that are likely to be impacted through placement of the pipeline in Coos Bay and Haynes Inlet include, but are not limited to: Dungeness crab (*Cancer magister*), red rock crab (*Cancer productus*), cockles (*Clinoecardium nuttallii*), gapers (*Tresus capax*), butter clams (*Saxidomus giganteus*), littleneck clams (*Protothaca staminea*), rockfish (*Sebastes spp.*), lingcod (*Ophiodon elongatus*), greenling (*Hexagrammos decagrammus*), California halibut (*Paralichthys californicus*), English sole (*Parophrys vetulus*), Pacific sand dabs (*Citharichthys sordidus*), ghost shrimp (*Callinassa californiensis*), mud shrimp (*Upogebi pugettensis*), starry flounder (*Platichthys stellatus*), smelts (Osmeridae family), (Engraulidae family), sardines (Clupeidae family), fall run Chinook salmon (*Oncorhynchus tshawytscha*), green sturgeon (*Acipenser medirostris*), white sturgeon (*A. transmontanus*), (OC) ESA threatened coho salmon (*O. kisutch*), and possibly Pacific lamprey (*Entosphenus tridentata*). There is also some potential that Pacific smelt (eulachon) (*Thaleichthys pacificus*) may be found in the JCEP/PCGP project area of Coos Bay. Additionally, the mudflats in the JCEP/PCGP area support a commercial ghost shrimp fishery. Eelgrass stands provide critical cover for a number of species and primary ecological production (Thom et al. 2003; Kentula and De Witt 2003).

There are numerous critical concerns with placement of the pipeline on steep slopes and direct routing parallel to the slope. Coastal sandstone soils are highly susceptible to mass-wasting when undercut and generally disturbed. A relatively extensive access road network will be created to access the pipeline installation and facilitate pipeline maintenance, which will further create potential for mass-wasting slope failures and general sediment production over the current condition. Stream health related to anadromous fish production has largely been assessed to be predominantly "Poor" (Scale: "Very Poor"; "Poor; Fair"; "Good"; "Excellent") in the Coos and Coquille River basins, with similar stream health conditions in the South Umpqua River basin. This "Poor" condition rating is largely related to upland disturbance increasing sediment loading and loss of riparian forest since 1900. Additionally, the proposed access road networks will likely have long-term chronic effects to fish and wildlife unless seeded, mulched, and closed. Sediment transport to streams is considered a substantial factor currently suppressing recovery of Endangered Species Act (ESA) listed (as threatened) Oregon Coast Coho salmon. Extensive research has documented the impacts of sediments to salmonids. Work to reduce sediment input into coastal and inland streams that will be impacted by the pipeline is foundationally critical for enhancing spawning and rearing habitat for fall Chinook salmon, Oregon Coast Coho salmon, Pacific lamprey (*Entosphenus tridentata*), winter steelhead (*O. mykiss irideus*) and coastal cutthroat trout (*O. clarki clarki*) as water quality is directly linked to hatch rates and food available for these species. Sediment loading above natural background levels contributes to embedding of substrates, which often results in reduced hatch rates for eggs in redds, inability of fry to emerge from redds, inhibited

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SA1-167

SA1-167 See the applicant's Habitat Mitigation Plan and the FERC requirement that they formulate this plan in consultation with appropriate resource agencies such as the ODFW.

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production of macroinvertebrates (invertebrates largely live in the interstitial spaces of gravels), and impacts on the ability of fish to obtain food due to the nature of salmonids to feed predominantly by using their sight (Burns 1970; Hall and Lanz 1969; Weiser and Wright 1988; Suttle et al. 2004; Tripp and Poulin 1992; Waters 1995).

The Applicant should be aware that Oregon Department of Forestry fish presence/absence surveys represent "present conditions", and although highly useful, these surveys do not completely represent historical fish usage as some watersheds have culvert barriers, man-made dams, etc. that are as of yet undocumented. The State of Oregon Fish Passage Rules (OAR 635-412-0005 through 0040) are based on maintaining fish passage throughout historical and currently accessible habitat.

Upland Discussion: The DEIS outlines permanent clearing or disturbance to a minimum of 2,886 acres of forested habitats 18.0 acres of wetlands and vernal pools (TABLE 4.1.2.2-2 pg14). Old growth Douglas fir (*Pseudotsuga menziesii*) habitats will be clearcut in a linear pattern resulting in habitat that is disturbed and or fragmented and that will remain fragmented in perpetuity. These uplands likely provide nesting habitat for ESA (listed as threatened) marbled murrelet (*Brachyramphus marmoratus*), feeding and nesting habitat for the ESA (listed as threatened) northern spotted owl (*Strix occidentalis caurina*). Columbian black-tailed deer (*Odocoileus columbianus*) will also be affected at the North Spit JCEP/PCGP location. However, they may not be negatively impacted inland along the pipeline route due to the flexibility of the species to disturbance and canopy removal. Mammals sensitive to disturbance such as Roosevelt elk (*Cervus canadensis roosevelti*), murrelets, and black bear (*Ursus americanus*) will likely be negatively impacted due to the increased long-term access of the service road network for the pipeline. The potential for introduction and proliferation of non-native weedy plant species is a substantial concern relating to construction of the pipeline due to the exposed soils and extensive distance of the project with multiple access roads. Lands adjacent to the 232 mile proposed route have historically been impacted substantially from large-scale alteration of the climax vegetation and invasion of non-native plants. Pipeline construction and maintenance (although perhaps neutral for a few species) will overall have impacts considered deleterious to the upland ecological function.

ODFW encourages efforts to understand, protect, and restore/mitigate for impacts to the Bay, upslope habitats, riparian corridors, and streams with the goal of minimizing reductions to the capacity of upland an aquatic habitats to produce fish and wildlife. In that context ODFW has the following desired outcomes for the FERC DEIS and its permitting process:

- FERC to direct the Applicant to continue documentation and categorization of aquatic and upland habitats (consistent with OAR 635-415-0000 through 0025) that will be disturbed through the PCGP project in collaboration with ODFW staff including:
  1. Numerical habitat quantity and quality assessments (acreage assessments, streams crossed, upland) by habitat Category. Note: DEA has consulted with ODFW in 2012 through 2014 to develop and categorize the habitat quantities and acreages for the habitats that are anticipated to be impacted by the PCGP facility.
  2. Identification of the avian, mammalian, and amphibian wildlife that will be affected by the project.
  3. Identification of the aquatic vertebrate species that will primarily be impacted by the project.
- FERC to direct the Applicant to continue development and refinement of the current Wildlife Habitat Mitigation plan and Aquatic Mitigation plans (currently in draft) in collaboration with

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SA1-168 See the applicant's Habitat Mitigation Plan and the FERC requirement that they formulate this plan in consultation with appropriate resource agencies such as the ODFW.

SA1-169 Impacts to ESA-listed species associated with vegetation clearing are addresses in detail in section 4.7.1. Impacts to State-listed species are addressed in section 4.7.2; other special status species in 4.7.3 and to BLM and Forest Service special status species in section 4.7.4.

SA1-170 The applicants are required to develop habitat mitigation plan in consultation with ODFW. The avian, mammalian, and amphibian species effects by the project are discussed in sections 4.6 and 4.7 (listed species). FERC requires a third party construction monitoring contractor rather than a local advisory group (see section 2.5.1).

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SA1-169

SA1-170

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ODFW, the U.S. Fish and Wildlife Service (USFWS), and NOAA Fisheries with the goal of avoiding, minimizing, and fully mitigating any residual impacts of the project to fish and wildlife resources and the habitats they depend on.

- Condition any certificate or approval such that it provides for protection of fish and wildlife and the habitat they depend on during all construction, operation, maintenance, and decommissioning phases of project implementation (e.g. require avoidance measures, minimization measures, mitigation actions, fish screening procedures, non-native species controls, BMPs, etc.).
- Ensure development of a monitoring plan that would guide assessment of the benefits or lack thereof for all restorative actions and mitigation.
- Ensure development of a Natural Resource Technical Advisory Group (NRTAG) by the Applicant to guide restorative actions and evaluate and suggest needed monitoring. This team would be formed in coordination with a list of professionals recommended jointly by ODFW and the Applicant.

SA1-171  
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PCGP AQUATIC/WETLAND/RIPARIAN/UPLAND CONCERNS and RECOMMENDATIONS

No.	Citation	Issue Identification	Recommended Resolution
1	Exec. Sum pgs. 7-9; Chapter 4.0 pg. 14; Table 4.1.2.2-2; 4.6.1.2-2; 4.6.1.2-3 Chapt. 4.6; 4.7; Chapt. 4.4, pg. 391, Paragraph 3.	Stream Crossing and Fish Oregon Fish Passage Law (ORS 509.580 through 509.910 and corresponding Administrative Rules OAR 635-412-0005 through 0040): It is a policy in the State of Oregon to provide upstream and downstream passage for native migratory fish. Fish passage is required in all waters of Oregon in which native migratory fish are currently or were historically present. With some exceptions defined in ORS 509.585, a person owning or operating an artificial obstruction may not construct or maintain any artificial obstruction across any waters of this state that are inhabited, or historically inhabited, by native migratory fish without providing passage for these fish. Projects that construct, install, replace, extend, repair or maintain, and remove or abandon dams, dikes, levees, culverts, roads, water diversion structures, bridges, tide gates or	Require compliance with Fish Oregon Fish Passage Law (ORS 509.580 through 509.910 and corresponding Administrative Rules OAR 635-412-0005 through 0040): <ul style="list-style-type: none"> <li>• ODFW recommends FERC condition the project certificate such that the Applicant is required to complete consultation with ODFW and receive approvals under Oregon Fish Passage Fish Passage Law for each individual stream crossing which "triggers" OAR 635-412-0005 through 0040 prior to authorization of project construction. Specific information relating to Oregon Fish Passage Law can be viewed on our website at the following location: <a href="http://www.dfw.state.or.us/fish/passage/">http://www.dfw.state.or.us/fish/passage/</a></li> </ul> Please see Oregon Fish Passage Law General Comment above. <p>Require Avoidance, Minimization, and Mitigation of Impacts to Habitat and Water Quality Associated with Stream Crossings: ODFW recommends FERC condition the project certificate such that the Applicant is required to complete consultation with</p>

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- SA1-171 The applicant would be required to comply with all laws, including Oregon's fish passage law. Any approval by the Commission would be conditioned on obtaining required permits. The state would ensure compliance through their permitting process.

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	<p>other hydraulic facilities can be "triggers" to Oregon's fish passage rules and regulations. For each stream crossing with current or historic native migratory fish presence, ODFW recommends a site visit or a meeting with a Department representative to assess site-specific impacts and compliance with Oregon fish passage laws and rules.</p> <p><b>Avoidance, Minimization, and Mitigation of Impacts to Habitat and Water Quality Associated with Stream Crossings:</b> Turbidity control measures for sediment generated at stream crossings; isolation of the work area; salvage of fish; Best Management Practices (BMP's) for equipment operation; measures for handling frac-outs if they occur; minimizing impacts to the riparian zone; and revegetation strategies are factors that need to be addressed for stream crossings. These have been partially, but not fully addressed in the DEIS.</p> <p><b>Additional Concerns Specific to Subsurface Boring and Drilling Stream Crossing Methodologies:</b> ODFW's experience with other pipeline construction projects has shown that stream crossings and overland disturbance can be damaging to watercourses if not carried out with extreme diligence. This potential for significant adverse environmental impacts should be disclosed in the DEIS. During construction of the Coos County Gas Pipeline horizontal directional drilling (HDD) was</p>	<p>ODFW and construct all fish bearing stream crossing actions within the periods identified in ODFW's standard In-Water Work timing guidance document unless otherwise approved in writing by ODFW. ODFW's standard In-Water Work timing guidance document can be viewed on our website at the following location:</p> <p><a href="http://www.dfw.state.or.us/lands/inwater/">http://www.dfw.state.or.us/lands/inwater/</a></p> <p><b>Note:</b> ODFW advise this it is not <i>biologically defensible to support any in-stream work during time periods when fish are actively spawning, migrating or when eggs or juveniles may be present in the gravels.</i></p> <p>ODFW recommends FERC condition the project certificate such that the Applicant is required to complete consultation with ODFW and construct all stream crossing in a manner that avoids, minimizes and fully mitigates any residual impacts to fish and wildlife habitats consistent with the expectations identified in ODFW's Fish and Wildlife Habitat Mitigation Policy (OAR-635-415-0000 through 0025). ODFW's Fish and Wildlife Habitat Mitigation Policy can be viewed on our website at the following location:</p> <p><a href="http://www.dfw.state.or.us/OARs/415.pdf">http://www.dfw.state.or.us/OARs/415.pdf</a></p> <p><i>Please see Oregon Fish and Wildlife Habitat Policy General Comment above.</i></p> <p>ODFW recommends FERC condition the project certificate such that the Applicant is required to complete consultation with ODFW and acquire all needed state and Federal authorizations to salvage fish and/or aquatic wildlife which would otherwise be likely subject severe stress or mortality as a result in-water work, as appropriate at a site specific level. ODFW recommends salvage of fish and/or aquatic wildlife occur as appropriate and as feasible throughout the project locations during the life of the project. Detailed information on necessary</p>
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	<p>stated as being "clean and not impacting streambeds", however, "frac-outs" occurred and incurred environmental damage caused by drilling fluids leaking into fish-bearing streams. Drilling fluids can be water or oil-based and can include other additives. Although the bentonite base is claimed to be a benign ingredient, ODFW is unaware of what the other additives are and how harmful they can be to fish and aquatic wildlife. This uncertainty should be reflected in the DEIS.</p> <p>Between August and October of 2003 MasTec North America, Inc. was cited by DEQ for a series of state water quality violations. The violations were a result of frac-outs during the horizontal drilling work for the construction of a natural gas pipeline under the North Fork of the Coquille River in Coos County. If similar frac-out related turbidity discharge impacts were to occur at the proposed Rogue River crossing, they would likely impact the significant spawning habitat for spring-run Chinook salmon in the Rogue River Basin. This potential should be disclosed in the DEIS.</p> <p>It is known that ESA-listed fish specie(s) and or State Sensitive species will be present at the South Coos, North Fork Coquille, and East Fork Coquille river crossings include OC Coho salmon. State Sensitive-Vulnerable species include Coho salmon (coastal coho salmon SMU/Oregon Coast ESU). Winter steelhead (Oregon Coast ESU/coastal winter steelhead</p>	<p>state authorizations for fish and aquatic wildlife salvage, recommended protocols, and standard BMPs is available from ODFW upon request, and should be disclosed in the DEIS.</p> <p><b>Require additional measures specific to Subsurface Boring and Drilling Stream Crossing Methodologies:</b> Pipeline crossings using HDD or other subsurface methodologies can be expected to cause frac-outs in Coos County geology and possibly throughout the project. The Applicant should be prepared for construction stoppages, cleanup, and remediation of damages caused by frac-outs. For that reason, crossings construction timing should occur during ODFW's recommended in-water timing guidance or as otherwise approved by ODFW in writing.</p> <p>HDD and other subsurface boring or drilling crossing design locations should pro-actively address the risks associated with the potential for a "Frac out" or inadvertent loss of drilling fluid to the extent practicable: Accordingly, ODFW recommends FERC condition the project certificate such that the Applicant is required to complete consultation with ODFW including submittal of any risk assessment and geotechnical documentation for any stream crossing which are proposed as subsurface boring or drilling stream crossing actions. Submittals should also include descriptions of alternate or contingency crossing methods should the primary method result in an inadvertent loss of drilling fluid, otherwise known as a "frac-out" or otherwise fail as a successful crossing action.</p> <p>ODFW further recommends FERC condition the project certificate such that the Applicant is required to:</p> <ul style="list-style-type: none"> <li>• Conduct adequate geotechnical analysis to ensure frac-outs will not occur (e.g. identify vulnerable geologic issues, adjust the depth of drilling, etc.).</li> </ul>
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	<p>SMU) are considered Sensitive-Vulnerable in the Coquille River basin, however, not in the Coos River basin. Pacific lamprey (<i>Entosphenus tridentata</i>) are considered Sensitive-Vulnerable in the Coos River, Coquille River, and Umpqua River basins making turbidity concerns heightened throughout in these watersheds, in addition to the concern within the Rouge River watershed.</p> <p><b>Non-fish Bearing Stream Crossings and Other Storm Water Drainage Conveyance Structures:</b> Although non-fish bearing stream crossings and stormwater conveyance infrastructure are not subject to the same design criteria identified above for fish bearing stream, ODFW remains concern with regard to sizing and instillation of these types of infrastructure. Culverts or other crossing infrastructure should be sized in excess of hydraulic capacity need to help facilitate wildlife connectivity between habitats and minimize potential downstream water quality impacts such as turbidity sedimentation transport resulting from scour at undersize infrastructure.</p>	<ul style="list-style-type: none"> <li>• Provide a list of the additives used in drilling fluids and their potential effects on the aquatic environment.</li> <li>• Implement specific drilling BMPs to ensure constant monitoring of drilling fluid return volume so that drilling can cease immediately if drilling fluid is not returning at the expected/standard volume for a successful HDD attempt.</li> <li>• Identify measures that will be taken to minimize impacts of a frac-out if a frac-out occurs and mitigation that will be implemented if a frac-out occurs as cleanup is not feasible and attempts will create additional damage. Mitigation could include: Placement of Large Woody Debris; placement of clean washed spawning gravel; road drainage improvements (cross drains, improved surfacing); road decommissioning.</li> <li>• Establish performance bonds and/or require performance bonds of drilling subcontractor to ensure adequate funding is immediately available to address/mitigate a frac-out or other drilling failure which results in damage to fish, wildlife, or the habitats they depend on.</li> </ul> <p><u>HDD Actions in the Lost River Drainage.</u> The Klamath Fish District of ODFW requests that drilling any HDD activities are implemented between July 1, and October 31, or as soon as water conditions are deemed uninhabitable by fish due to poor water quality.</p> <p>Shortnose suckers (<i>Chasmistes brevirostris</i>), Lost River sucker (<i>Deltistes luxatus</i>) and redband trout (<i>Oncorhynchus mykiss</i>) inhabit this stretch of river from November to July; poor water quality triggers migration to upstream refuge habitats. Fish are highly sensitive to sound waves that could be caused by drilling disturbances and sound waves could act as a migration barrier. The DEIS should disclose this danger and adopt ODFW's recommended mitigation.</p>
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			<p><b>Non-fish Bearing Stream Crossings and Other Storm Water Drainage Conveyance Structures:</b> ODFW recommends that all streams be considered fish bearing unless documented to be absent of fish. If a stream crossing or storm water conveyance structure is determined to be on a non-fish bearing stream, ODFW still recommends the work be completed:</p> <ul style="list-style-type: none"> <li>• In accordance with ODFW's standard In-Water Work timing guidance document or when the stream or storm water conveyance structure is dry. (see reference above).</li> <li>• The Applicant consider oversizing the infrastructure and installing it in such a manner to maximize its performance as a suitable wildlife crossing structure and to minimize potential for downstream water quality impacts such as turbidity sedimentation transport resulting from scour at undersize infrastructure.</li> </ul>
2	<p>DEIS Chapt. 2 pg. 113, 114 DEIS, ES-pg. 13; Chapt. 4 pg. 396 TABLE 4.4.2.2-10; 387; 401 Resource Report 2, Drilling Fluid Contingency Plan For Horizontal Directional Drilling Operations, Chapt. 3.2.2, Aquatic Inadvertent Returns. Chapt. 4.4 pgs. 383-388. Chapt. 4.1 pg. 103, 104, 115, others;</p>	<p><b>Site Specific River/Stream Crossing Concerns:</b> <u>Lost River Crossing:</u> See above specific timing recommendation</p> <p><u>Klamath River Crossing</u> - ODFW does not support open trench methods at this location. In the event of a catastrophic spill or release, a contingency plan should include an evaluation of needs for dilution flows and dewatering. Flows from upstream can be manipulated by the Bureau of Reclamation and downstream irrigation canals can be manipulated by irrigation districts for dewatering.</p> <p><u>Rogue River Stream Crossing:</u> Pacific Connector states that if HDD of the Rogue River is unsuccessful Direct Pipe (DP) methods would be a potential option. Previously wet, open-cut crossing were also proposed.</p>	<p><b>Identify site specific river/stream crossing impacts and resolve concerns by requiring mitigation:</b> ODFW encourages both the Applicant and FERC to acknowledge the potential for severe impacts to fish, aquatic wildlife, and the habitats they depend on by ensuring the above recommendations become conditions of any Federal Authorizations or permits for the PCGP project.</p> <p>ODFW recommends site specific coordination and consultation between the Applicant and ODFW staff to fully identify unique site specific resource concerns at these crossing locations. ODFW anticipates that significant resource impact avoidance and minimization can be realized through collaboration with local ODFW staff throughout the crossing design, construction, and restoration/mitigation recovery phases at these river crossing locations.</p> <p><b>Fate Creek:</b> ODFW recommends the Applicant engage ODFW staff for assistance identifying appropriate mitigation needs at</p>

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SA1-172 FERC requires the applicant to follow its Wetland and Waterbody Construction and Mitigation Procedures. These procedures have been developed to provide baseline mitigation measures for minimizing the extent and duration of disturbance on wetlands and waterbodies. The State (and regulatory agencies) may require site-specific crossing plans and additional mitigation as part of its permitting process.

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	Resource Report 3, pg. 395, Paragraph 2.	<p>ODFW does not consider a wet, open-cut to be an acceptable contingency method.</p> <p><u>South Umpqua Direct Pipe Technique Site #1 at MP 71.3), and South Umpqua Open Cut Site #2 at MP 94.73; see Tables 2 and 3 -</u> This proposed crossing occurs at an ecologically important site. A gravel bar is located approximately 300 m downstream.</p> <p>The gravel bar at this site provides river complexity, high flow refugia and summer slow water habitats which are considered to provide both essential and limited habitat function for a variety ESA-listed fish, state-sensitive listed fish and aquatic wildlife.</p> <p><b>Fate Creek:</b> The DEIS does not provide a site specific plan for Fate Creek. The resource plans do not address or mitigate for all impacts associated with stream crossings under ODFW's Fish and Wildlife Habitat Mitigation Policy.</p>	this site to include in the DEIS, and to identify such mitigation in the DEIS as a required measure.
3	<p>Chapt. 4.14 pgs. 150; 1026; 1030; 1033; 1034; 4.6; 4.7; 5.0 pg. 8; Table 4.4.2.2-11.1 pg. 399; Appendix F Chapt. 4.14 pgs. 150; 1026; 1030; 1033; 1034; 4.6; 4.7; 5.0 pg. 8; Table</p>	<p><b>Overarching Habitat Mitigation Expectations (Aquatic, Wetlands, Riparian, and Uplands):</b> The DEIS Habitat Mitigation Plan(s) and associated descriptions throughout the DEIS are largely incomplete and non-specific. As one example, the DEIS does not include detailed information adequate for ODFW to understand all the proposed habitat impacts, or the value of proposed mitigation, nor to evaluate the adequacy of proposed mitigation against the</p>	<p><b>Overarching Habitat Mitigation Expectations (Aquatic, Riparian, Wetlands, and Uplands):</b> ODFW recommends FERC condition the project certificate such that the Applicant is required to complete consultation with ODFW and ensure the project is designed and constructed in a manner which avoids, minimizes and fully mitigates any residual impacts to fish and wildlife habitats consistent with the expectations identified in ODFW's Fish and Wildlife Habitat Mitigation Policy (OAR-635-415-0000 through 0025).</p> <p><i>Please see Oregon Fish and Wildlife Habitat Policy General Comment above.</i></p>

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SA1-173 See the applicant's Habitat Mitigation Plan and the FERC requirement that they formulate this plan in consultation with appropriate resource agencies such as the ODFW. If the Commission's decides to approve the project, the Public Order would be conditioned on the applicant meeting state permitting requirements. The DEIS is not inconsistent in regards to the duration of impacts. The duration of impacts is not consistent across all resources. For example, vegetation clearing may be a short-term impact (2 to 3 years) in grasslands but a decades-long impact in a forested environment.



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SA1-174 Herbicide use would need to meet federal land management plan requirements on federal lands (see section 2.4.2.1) and state law on private lands. See FERC's Plan and Procedures for placement of woody debris and the use of clean gravel. The State may require additional measures as part of its permitting process.

<p>4.4.2.2-11.1 pg. 399; Appendix F Chapt. 4.14 pgs. 150; 1026; 1030; 1033; 1034; 4.6; 4.7; 5.0 pg. 8; Table 4.4.2.2-11.1 pg. 399; Appendix F Chapt. 4, pg. 4-73 # 1. Resource Report 3, pgs. 76-80, Tables 3.2-29 a,b. Resource Report 2, Appendix 2A, pgs. 10-24. Resource Report 3, pgs. 76-80, Tables 3.2-29 a,b. Resource Report 2, Appendix 2A, pgs. 10-24. Chapt. 4.6, pg. 583, Paragraph 4, Chapt. 4.4.3; pg.404; Appendix N Table TABLE N-1b pg. N- 67</p>	<p>goals and standards of ODFW's Fish and Wildlife Habitat Mitigation Policy (OAR 635-415- 0000 through 0025). The DEIS also appears disproportionately focused on mitigation actions on Federal land largely ignoring compensatory mitigation action necessary to mitigate for impacts on non-federal lands.</p> <p><b>Inconsistent Description of Impact Duration:</b> This section defines impact duration categories: temporary, short term, &amp; permanent impacts, but is inconsistent with descriptions in other sections. For example on page 4-1 the definition for "short term" impacts includes impacts that could continue for up to three years following construction. However, under General Impacts to Terrestrial Wildlife &amp; Measures to reduce or Mitigate Impacts on page 4-533 "short term" impacts are described as continuing for up to five years.</p>	<p>Potential mitigation actions and opportunities have been identified by local ODFW staff in an effort to help identify viable ideas with potential for addressing mitigation needs throughout the project alignment. However, FERC and the Applicant should be cautioned that these specific mitigation actions and opportunities may or may not be ultimately adequate to fully meet with the expectations identified in ODFW's Fish and Wildlife Habitat Mitigation Policy (OAR-635- 415-0000 through 0025) and this fact should be disclosed in the DEIS. Because the DEIS disproportionately focused on mitigation actions on Federal lands, ODFW's suggested mitigation actions and opportunities are focused primarily on non-federal lands. These potential mitigation actions and opportunities are outlined in Appendix A of these comments and recommendations below.</p> <p><b>Correct inconsistent description of impact duration:</b> ODFW recommends the Applicant and FERC correct inconsistencies regarding impact duration definitions throughout the DEIS.</p>
<p>4 Chapt. 4.4, pg., 379, Table 4.4.2.2- 6 Resource Report 2, pg. 75 paragraph 3. Chapt. 4, pg.</p>	<p><b>Aquatic Habitat Impact/Mitigation Concerns:</b></p> <p><b>Points of Diversion Fish Screening:</b> The Applicant has identified Points of Diversion (POD's) that are within 150 feet of the work area. Many POD's have water conveyance ditches</p>	<p><b>Disclose and require mitigation for Aquatic Habitat Impacts in the EIS:</b></p> <p><b>Points of Diversion Fish Screening:</b> ODFW recommends that the PCGP project precisely identify the location of fish screening equipment as it relates to the work area.</p> <p><b>Herbicide Use Near Streams/Wetlands:</b></p>

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<p>4-1, Paragraph 1. Chapt. 4.4 pgs. 383-388.</p>	<p>outfitted with fish screens. Not all fish screens are located in the immediate vicinity of the POD.</p> <p><b>Herbicide Use Near Streams/Wetlands:</b> The Applicant states that pesticides or herbicides will not be used in or within 100 feet of wetlands unless allowed by the land management or permitting agency.</p> <p><b>Small Stream Temperature Issues:</b> The DEIS states "In streams that have very small flows, lack of shade may raise stream water temperatures and reduce LWD supply." It is also stated, "streams with low or intermittent flow generally support smaller fish populations and less diverse species composition."</p> <p>However, Rogue summer steelheads primarily rely upon streams with low or intermittent flow for spawning and brief periods of rearing. Numerous intermittent streams within the Coastal Range are also important for Coho production.</p> <p><b>Large Woody Debris (LWD) as Mitigation:</b> ODFW, recommends revisiting analysis and discussion of LWD as mitigation as in many cases placement of a small number of pieces of LWD do not address impacts (sediment, disturbance of channel morphology, long-term canopy removal etc.). LWD treatments as mitigation are not considered "In Kind" for impacts to riparian canopy.</p>	<p>ODFW recommends against general use of herbicides and pesticides in wetlands. ODFW recommends any use be judicious and meet federal, state, and local, regulatory requirements.</p> <p><b>Small Stream Temperature Issues:</b> ODFW recommends FERC condition the certificate to direct the Applicant to treat all intermittent waterbodies within the Coast, Umpqua, and Rogue basins the same as perennial streams and provide these streams the same level of protection, as stated in the DEIS, comparable streams on Federally managed lands.</p> <p><b>Large Woody Debris (LWD) as Mitigation</b> (See Appendix A below): ODFW recommends a stream habitat mitigation plan be developed for every fifth field watershed crossed in order to effectively mitigate for the life-long impacts of the project. In addition the Applicant should fully mitigate for the multiple impacts at stream crossing sites including, but not limited to:</p> <ul style="list-style-type: none"> <li>• Access roads and associated sediment production to streams.</li> <li>• Loss of riparian canopy that increases solar input.</li> <li>• Elimination of much of the filtering capacity of the RMA due to removal most other lost habitat values/benefits of riparian habitat as well.</li> <li>• Destabilization of stream channels and stream banks.</li> </ul> <p>ODFW recommends that in addition to placement of LWD at stream crossing sites the following restoration and mitigation actions may greatly complement the functional habitat benefits provide by LWD placement :</p> <ul style="list-style-type: none"> <li>• Placement of forest vegetation (limbs, small woody debris, etc.) scattered on bare soils following disturbance within 50ft. of each pipeline approach to streams. This material will be readily</li> </ul>
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		<p>ODFW believes this approach, without further augmentation, would likely fall short of compensating for loss of habitat functions and values from anticipated project impacts. LWD placed haphazardly and not within a continuous project typically do not provide immediate or long term benefits for adult or juvenile salmonids.</p> <p>Forested riparian areas contribute more than LWD (e.g. shade, nutrients, predatory cover, wildlife habitat, etc.) to streams</p>	<p>available due to land clearing efforts</p> <ul style="list-style-type: none"> <li>• Purchase of riparian easements on private timber or agricultural lands in the HUC 6 watershed. Appendix A below contains a number of potential mitigation options.</li> <li>• Placement of washed spawning gravel at all stream crossing impact sites in the Coastal Zone and considered on a site by site basis for all other stream locations. Spawning gravel is often a limited quantity habitat feature in the Coastal Zone and placement will augment productive capacity of reach impacted for salmonids.</li> <li>• Gravels should consist of washed drain rock from an upland source (such as the Elk River Pit in Langlois, OR)</li> <li>• Gravels should consist of 1.5 inch diameter washed drain rock for Coho and steelhead spawning streams; 0.75 inch washed drain rock for streams where only cutthroat trout are present.</li> <li>• Gravels should be applied at the rate of 8.0 inch depth over the reach impacted to the width of the ACW and up the banks 2.0 feet (which will reduce bank instability). Thus if a 40 foot reach of stream channel is disturbed and the ACW is 8 feet wide, then the quantity needed would be 40.0 feet x (8.0 feet ACW+ (2x2 banks)) x 0.67 ft. (8.0 inches) or a total of 321 cubic feet or roughly 12.0 cubic yard (CY).</li> </ul>
5	<p>Chapt. 4.4, pg. 379, Table 4.4.2.2-6</p> <p>Chapter 2.0 pgs. 83-84; Chapt. 4.0 pgs. Misc. throughout; Appendix C Chapt. 4, pg. 4-73 # 1.</p> <p>Chapt. 4, pg. 4-1,</p>	<p><b>Water quality Impacts from Sedimentation, Storm water Runoff, and Roads:</b></p> <p><b>Sedimentation Impacts from Clearing and Grubbing Large sections of ROW:</b> This section lists actions designed to reduce run off and catch sediment. The DEIS fails to include a discussion identifying how much area will be cleared and grubbed at one time. Lessons learned from the ODOT's Pioneer to Eddyville project (in</p>	<p><b>Water quality Impacts from Sedimentation, Storm water Runoff, and Roads:</b></p> <p>Disclose and require mitigation to address sedimentation impacts from clearing and grubbing large sections of ROW: Given the known instability and potential precipitation levels in the Coast Range Mountains ODFW recommends:</p> <ul style="list-style-type: none"> <li>• FERC requires the Applicant develop a detailed written plan that identifies the maximum amount of land cleared and grubbed at one time. The plan</li> </ul>

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SA1-175 "Multiple levels of BMPs will be used to control run off sediment (see ESCP) in order to minimize erosion regardless of quantity. EIs will regulate construction and post construction actions and procedure suitable for the conditions encountered to comply with state/federal permits. With many procedures in place to control sediment runoff, the goal is to minimize effects so that they are minor or construction is halted until effects are reduced back to minor.

The ECRP (Appendix I of the POD) identifies temporary permanent erosion control measures and site specific mitigation measures. As a follow-up measure to help ensure crossing actions would not adversely affect stream bank and channel structure, Pacific Connector would monitor all stream crossings, regardless of risk, quarterly for 2 years after construction. Any adverse issues found during the monitoring with channel stability or habitat would be remediated. Additional monitoring would occur periodically over a 10-year period with implementation of remediation as needed.

The applicant has updated the Stream Crossing Risk Analysis (PCGP February 13, 2015) and consulted with USFWS (Janine Castro February 11, 2015) concerning the evaluation of pipeline stream crossings. They have developed crossing designs for those streams considered at risk based on the USFWS Pipeline Screening Risk Matrix, for sites they had access to. This analysis was done for stream crossings for the whole route independent of fish present. They also have developed a host of actions (see new report) that would be taken at sites depending on site specific conditions that would be determined prior to construction. They have included input for sites of concern on BLM and Forest Service lands in the assessment and designs. They will conduct surveys of streams that currently do not have access to once they obtain permission to finalize the risk status and proceed appropriately as done at accessible sites. They have developed a monitoring plan for the crossing sites as well to determine where issues may arise post construction and indicated they would take remedial actions if needed based on permit requirements. Other specific requirements

for the crossings will made through the state and federal permitting process. Updated information has been included in the EIS text.

The effects to stream temperature, LWD, sedimentation have been acknowledged and the mitigation in all forms (avoidance, minimization, BMPs, and compensation) that would be implemented were presented in the DEIS and associated documents (see Section 4.6.2.3, Section 4.1.3, Appendix S – Wildlife Habitat Mitigation Plan, and Applicants Draft Compensatory Mitigation Plan). Consultation with listed species managing agencies (NMFS and USFWS) will ultimately result in determinations of whether some forms of additional mitigation is needed to protect listed species and their critical habitat.

As stated in Section 4.4 of the EIS, Pacific Connector's SPCCP addresses the preventive and mitigate measures that would be implemented to avoid or minimize the potential effects of hazardous material spills during construction. "

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<p>Paragraph 1. Resource Report 3, pgs. 76-80, Tables 3.2-29 a,b. Resource Report 2, Appendix 2A, pgs. 10-24.</p>	<p>the Coast Range Mountains) include the need to limit the amount of ground cleared of vegetation at any one time. The pipeline will cross 47 miles of the Coast Range, so special care should be taken to limit erosion and sediment loss in this section as well as any other areas of significant rainfall with steep slopes.</p> <p>The timing of the pipeline construction should allow for ground clearing to occur after the spring rainy season and any areas opened up should be seeded and vegetation established before the fall rains. Distance and slope can be taken into account regarding the amount of land cleared and grubbed, i.e. the greater the distance from a creek and the flatter slope, the less concern for down slope sediment escape and erosion that can ultimately impact water bodies.</p> <p>The DEIS recognizes the geological instability of the Coast Range in the following sections: Chapter 4, Page 4-503, under Landforms and Erosional Processes, paragraph 1: <i>"Unstable landscapes (i.e., earthflows) may constrict or deflect stream channels...."</i> And same page under Climate, paragraph 1: <i>"the Coast Range receive some of the highest precipitation totals in the continental U.S., with some areas receiving up to 200 inches per year."</i></p> <p><b>Pipeline Steep Slope Concerns and Roads:</b> A number of miles of the pipeline will be constructed</p>	<p>should also identify (1) areas of high, medium, and low levels of risk for sediment escape and impacts to water bodies. Based on slope and proximity to water bodies, and (2) include a re-vegetation section that ensures re-establishment of vegetation in high and medium risk areas prior to the fall rains.</p> <p><b>Disclose and require mitigation as described below to address pipeline steep slope concerns and roads:</b> Stabilization/erosion control of upland slopes following pipeline construction will be nearly as important as stabilization/erosion control in riparian areas adjacent to streams. Some extremely steep slopes will be encountered in the Coos County portion of the pipeline. ODFW recommends the following for locations where the pipeline will traverse or the route will be placed on slopes which qualify as High Landslide Hazard Locations (HLHL as defined in <i>Oregon Dept. of Forestry Technical note 2.0 vers 2.0; (ODF Jan 1, 2003)</i>; in Tyee Sandstone over 65% slope on headwall locations and 75% ridges):</p> <p>ODFW recommends the pipeline construction route incorporate cross slope trenching as opposed to routing parallel to the slope whenever possible to reduce the risk of soils moving laterally in the trench downslope (mass wasting slides). The DEIS should disclose the environmental benefits of this method and require it as a recommended measure in Section 5.2.</p> <p>Placement of erosion control matting has been outlined as an upland soil disturbance control measure. This, in combination with cross slope placed large wood, stumps, and other wood material, is considered a modestly reasonable attempt for erosion control. ODFW recognizes that pipeline corridor management strategies are not likely to allow for placement of large wood in pipeline corridors.</p>
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	<p>on slopes that exceed 50%. Tye sandstone geology in the Coos and Coquille River basins and the geology of the Rogue Basin to a lesser degree are highly prone to landslides if the supporting matrix is disturbed. Additionally numerous access roads will be built to harvest timber and access construction of the PCGP. Essentially the pipeline route is a 232 mile road through the landscape. Mass wasting debris torrents and general erosion are considered substantial threat to ESA listed and non-ESA listed salmonids as well as amphibians.</p> <p>Extensive research has documented the impacts of sediments to salmonids. Work to reduce sediment input into coastal and inland streams that will be impacted by the pipeline is foundationally critical for enhancing spawning and rearing habitat for fall Chinook salmon, Oregon Coast Coho salmon, Pacific lamprey (<i>Entosphenus tridentata</i>), winter steelhead (<i>O. mykiss irideus</i>) and coastal cutthroat trout (<i>O. clarki clarki</i>) as water quality is directly linked to hatch rates and food available for these species. Sediment loading above natural background levels contributes to embedding of substrates which often results in reduced hatch rates for eggs in redds, inability of fry to emerge from redds, inhibited production of macroinvertebrates (invertebrates largely live in the interstitial spaces of gravels), and impacts on the ability of fish to obtain food due to the nature of salmonids to feed predominantly by using their sight (Burns 1970;</p>	<p>ODFW recommends rock or other structures be placed across the pipeline trench at a 90° angle and be embedded in the undisturbed walls of the trench a minimum of 4ft. to prevent free movement of soil in the disturbed pipeline trench. These structures should be placed at 100ft. intervals.</p> <p>Steep slope pipeline locations should receive additional efforts with seeding and mulching. Additionally these segments of the pipeline route should have cross slope structures and drainage networks to reduce failure risk.</p> <p>ODFW recommends the road network be required to:</p> <ul style="list-style-type: none"> <li>• Have surfacing that is sufficient to accommodate travel loading and prevent erosion of the road surface through all months.</li> <li>• Have cross drains installed at a density/spacing that is equivalent or exceeds to recommendations in the ODF Forest Practices Technical Note Number 8 vers.1 (ODF Jan 2003).</li> <li>• Have mitigation for sedimentation/mass wasting issues clearly identified in-proximity regardless of ownership (federal or non-federal) as these locations have the greatest potential for measurable improvements in reducing sediment loading to streams impacted.</li> </ul> <p><b>Disclose and require Emergency Response Notification for water quality impacts in the DEIS as they relate to avoidance, minimization, and mitigation of impacts to fish, aquatic wildlife, and habitats:</b> ODFW recommends that emergency plans include immediate notification of:</p> <ul style="list-style-type: none"> <li>• Turbidity exceedances, frac-outs, and spills and pipeline leaks for both the JCEP/SDPP facility and PCGP.</li> <li>• ODFW recommends that emergency plans include surveys for fish and wildlife kills immediately following a frac-out, spill, or</li> </ul>
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		<p>Hall and Lanz 1969; Weiser and Wright 1988; Suttle et al. 2004; Tripp and Poulin 1992; Waters 1995). See Appendix A Figure 1-3.</p> <p><b>Emergency Response:</b> Emergency plans, including immediate notification of turbidity exceedances, frac-outs, spills, and pipeline leaks for both the JCEP facility and PCGP, are considered critically important. Sensitive fish and wildlife habitats can be severely impacted by these types of occurrences. However, impacts can be greatly minimized if remediation actions are initiated quickly upon discovery of an incident.</p> <p><b>Natural Gas Pipeline Shut-Off Valves:</b> ODFW remains concerned with potential impacts to fish, wildlife, and their habitats from unanticipated failures or gas releases: This DEIS should disclose whether it is possible to have a shut-off valve on each side of large stream crossings, such as the South Umpqua, Rogue and Klamath Rivers?</p> <p>Whether if there is a rupture and a natural gas release, how long will it take for the spilling to cease? And How far apart are the proposed shut-offs?</p>	<p>gas release.</p> <p>Should an incident like those described above occur, the project must contact Oregon Emergency Response System immediately (1-800-452-0311) in the case of leaks during pipeline operation or offloading or loading at the JCEP facility or along the PCGP route.</p> <p><b>Natural Gas Pipeline Shut-Off Valves-LNG Control at Large Rivers:</b> ODFW recommends that options to have shut-off valves on each side of large stream crossings such as the South Umpqua, Rogue, and Klamath Rivers be evaluated.</p>
6	ES-pg. 8; Chapt. 4.4 pg. 397; 536;	<p><b>Hydrostatic Testing:</b> The DEIS describes use of 62 million gallons of water to complete hydrostatic testing. Removal of 17,856,743 gallons from the South Umpqua fourth field HUC, including 12,268,491 gallons from the South Umpqua alone will possibly be a substantial impact</p>	<p><b>Disclose impacts associated with Hydrostatic Testing and require appropriate mitigation:</b></p> <ul style="list-style-type: none"> <li>• ODFW notes changes to the Hydrostatic Testing Plan that assist with guiding erosion potential and encourages continued efforts to alleviate this impact to reduce erosion impacts due to pipeline testing discharge.</li> <li>• However, in addition, the project</li> </ul>

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SA1-176

SA1-176 The applicant has supplied a Hydrostatic Testing Plan addressing many of the issues presented (PGCP. 2013. Hydrostatic Testing Plan June 2013). Specific state requirements of the hydrostatic testing and details of monitoring will be conditions included in state issued permits the applicant will be required to obtain and follow before these activities can be conducted.

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	<p>on fish and wildlife resources, especially during periods of low flow and poor water quality.</p> <p>Transport of invasive species is a substantial concern with transport of water from a source basin and release at another point in an adjacent watershed. Damage and control costs of invasive species in the United States are estimated to be more than \$138 billion annually and 80% of endangered species are deleteriously impacted by these species through predation or competition (Pimental et. al). Impacts from invasive fish species alone cost \$6.03 billion annually (Cusack et. al.).</p> <p>The Plan states that testing will immediately follow pipeline construction in late summer and early fall. Potential adult anadromous migration during these times includes fall Chinook, coho, winter steelhead, coastal cutthroat trout and Pacific lamprey. Also, this can be the period of lowest stream flow, and water for hydrostatic testing may be unavailable unless purchased from existing available water sources such as reservoirs. Inter-basin mixing of water could adversely affect migration of adult anadromous fish (salmon, steelhead and lamprey) to their natal streams through a phenomenon known as false attraction. The DEIS should disclose this information.</p> <p>Supplying water from an Oregon Department of Environmental Quality 303(d) TMDL Water Quality limited waterbody to a</p>	<p>proponents need to continue to incorporate methods to eliminate the possibility of spreading invasive species (such as New Zealand mud snails, smallmouth bass fry) especially given that the pipeline will convey water between non-hydraulically connected basins and in some instances, be "cascaded" across the landscape to be used for the next segment. Minimizing the risk, as discussed in the plan, is not adequate. Water diverted will need to be tested along with water at the nearest discharge waterbody to see if stream pathologies are similar or measures taken to ensure water released is sterilized.</p> <ul style="list-style-type: none"> <li>• Require NMFS-approved screening on diversions and fish passage at these locations must be maintained. The NMFS-approved screening criteria have also been adopted by ODFW as adequate to protect the free swimming life stage of freshwater fish species under state jurisdiction.</li> <li>• In addition, test water should not be allowed to drain into waters of the State and chlorinated water should not be used for the testing unless the release location will not enter a stream, wetland, or waterway.</li> <li>• ODFW recommends continued efforts to develop the Hydrostatic Testing Plan as well as a Hydrostatic Monitoring protocol with the intent of approval of the plan by ODFW, other state and federal agencies. The survey will monitor ramping, fish stranding, and water temperature at pumping and release sites, salvage fish, and document fish losses. The project proponents should conduct the surveys with competent biological staff.</li> <li>• A summary report of monitoring would be submitted to the agencies, along with compensation for losses to fish and wildlife resources.</li> </ul>
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SA1-177 This a request to the Applicant, not a comment on the DEIS.

		basin of higher water quality may result in reduced water quality in the source watershed.	
		Hydrostatic testing will require additional staff and noise disturbance on the pipeline route. It is uncertain and not addressed in the DEIS as to if this will have additional impacts on nesting Northern Spotted Owls.	
7	Chapt. 4.4 pg. 373; TABLE 4.4.2.2-3 Chapt. 4, pg. 4-73 # 1. Resource Report 2, pg. 71, Paragraph 5. ES- pgs 4, 6; Chapt 4.5 pg. 532; 4.6 ; Table TABLE 4.7.4.1-2; Chapt. 1.0 pg. 4; Appendix F throughout; Appendix M	<p><b>Wetland Habitat Impact/Mitigation Concerns:</b> The project is anticipated to produce substantial turbidity to wetlands adjacent to the pipeline channel and road networks associated with the project.</p> <p>Additionally, noise from hydrostatic testing will likely impact amphibian populations, potentially disrupting breeding cycles. Table 1-1 Summary of Wetland Impacts by Fifth Field Watershed (Appendix I of the DEIS) describes 238.96 acres of temporary and 1.48 acres of permanent impacts within the pipeline route.</p> <p>Major wetland functions include water storage, carbon sequestration, slow water release, maintenance of high water tables, temperature regulation, nutrient cycling, sediment retention, accumulation of organic matter, filtration, and maintenance of plant (by provision of substrate for plant colonization) and animal communities. Measures need to be taken to eliminate the risk of spreading invasive plants and noxious weeds.</p> <p>The monitoring needs to contain</p>	<p><b>Disclose Amphibian Direct Mortality and Long-Term Passage and Require Mitigation as recommended below:</b> ODFW recommends the Applicant meet with an ODFW biologist to discuss the need for amphibian salvage depending on the specific proposals for construction through or near waterways and wetlands. ODFW recommends that surveys are completed for both amphibians and reptiles. Additionally:</p> <ul style="list-style-type: none"> <li>• ODFW recommends that final constructed designs provide for amphibian passage along the pipeline route (i.e. installing cross drains under access roads that connect wetlands). Installation of culverts with stream simulation design is considered to fully provide for amphibian passage. There will be a number of locations where fish are not present that passage for amphibians may need to be provided on a case by case basis.</li> <li>• ODFW recommends the PCGP project staff consult for all wetland locations &gt;0.1 acre in size with Department staff at least 1.0 months prior to disturbance to determine methodologies to reduce impacts to amphibians and identify if salvage is necessary.</li> </ul>

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SA1-178 If the Commission's decides to approve the project, the Public Order would be conditioned on the applicant meeting state permitting requirements.

		<p>specific goal criteria and contain contingency plans if restoration attempts are not successful.</p> <p><b>Big Butte Creek Fifth Field HUC:</b> The DEIS notes that an extremely long wetland crossing 3,466.41 feet (0.66 mile) and 7.46 acres of wetland impact is proposed in this watershed</p> <p><b>Amphibian Direct Mortality and Long-Term Passage:</b> The PCGP project is anticipated to incur notable mortality to amphibians resulting from proposed construction methods in riparian areas, stream adjacent wetlands, and perched wetlands.</p> <p>Amphibians range in mobility from highly mobile to extremely limited. Installation of crossings where there is currently stream/wetland connectivity can result in increased predation and reduced capacity of amphibians to access needed habitats. This is critical where wetland are ephemeral.</p> <p>The DEIS does not outline that reptile surveys will be conducted.</p>	
8	<p>Exec. Sum pgs. 7-9; Chapter 4.0 pg. 14; Table 4.1.2.2-2; 4.6.1.2-2; 4.6.1.2-3 Chapt. 4.6; 4.7; Chapt. 4.4, pg. 391, Paragraph 3. Chapt. 4.4 pg. 373; TABLE 4.4.2.2-3</p>	<p><b>Amphibian Salvage Expectations:</b></p> <p><b>ODFW's Scientific Take Permits:</b> Scientific take permits are relevant to coordinate salvage and movement of fish and wildlife species impacted during a project.</p> <p><b>Amphibian Salvage:</b> The JCEP staff proposed that in order to mitigate potential impacts on amphibians and reptiles it would conduct pre-</p>	<p><b>Amphibian Salvage Expectations:</b></p> <p><b>Disclose opportunity for and require Applicant apply for ODFW's Scientific Take Permits:</b> ODFW recommends a condition be included for the Applicant to apply for and comply with state scientific taking permits.</p> <ul style="list-style-type: none"> <li>• ODFW recommends that the pipeline staff report quantified known injuries and mortalities by species during construction of the project.</li> <li>• ODFW recommends that the PCGP staff report injuries and mortalities of fish and wildlife by species associated with operation of the pipeline or in an</li> </ul>

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	Chapt. 4, pg. 4-73 # 1. Resource Report 2, pg. 71, Paragraph 5. ES- pgs 4, 6; Chapt 4.5 pg. 532; 4.6; Table TABLE 4.7.4.1-2; Chapt. 1.0 pg. 4; Appendix F throughout; Appendix M Chapt. 4, Page 4-504, last Paragraph	construction surveys for the northern Pacific pond turtle, northern red-legged frog, and clouded salamander. Individuals located within the construction area would be captured and transported to suitable nearby habitats, agreed to with the ODFW.	emergent condition.  <b>Amphibian Salvage:</b> ODFW recommends FERC condition the project certificate such that the Applicant is required to acquire all needed state and Federal authorizations to salvage amphibians that would otherwise be likely subject severe stress or mortality as a result in-water work or wetlands impacts, as appropriate at a site specific level. ODFW recommends salvage of amphibians occur as appropriate and as feasible throughout the project locations for the life of the project. Detailed information on necessary state authorizations for fish and aquatic wildlife salvage, recommended protocols, and standard BMPs are available from ODFW upon request, and should be disclosed in this DEIS.
9	Chapter 4.6; 4.7; 4.9 pgs. 820, 923-991	<b>Riparian Habitat Impact/Mitigation Concerns:</b> Riparian vegetation within the Riparian Management Area (RMA) zone near streams, wetlands, and waterways is critically important for the health of Oregon's native fish populations, especially in the drier parts of the pipeline corridor such as the Rogue and Klamath watersheds. Fish in the state are predominantly cold water species that evolved in stream conditions that were in most cases related to climax or second growth hardwood and conifer forest, thus near maximum shade that the stand would produce.  The Oregon Dept. of Environmental Quality has identified 303d temperature listed streams including numerous streams through the pipeline route. These listings relate directly to removal of	<b>Disclose Riparian Habitat Impacts and Require Appropriate Mitigation:</b> (See Appendix A below): ODFW recommends that riparian vegetation buffers be required that:  RMA vegetation meet or exceed State and local government requirements be implemented on non-federal lands. All disturbed areas need to be replanted with native vegetation. ODFW recognizes that the proposed crossing locations may be on lands where private landowners may not allow the full setback to be replanted. In these situations, ODFW does not object if mitigation for permanent riparian impacts occurs off-site provided that it occurs within proximity within the same HUC 6 watershed and on private lands.  <u>Thinning as Mitigation:</u> ODFW recommends this treatment should be used only on a very limited basis with clearly defined objectives that address location specific limiting factors.

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SA1-179

SA1-179 The applicant must meet state requirements in regards to stream buffers. Buffers on federal lands would be more extensive, as required under the NW Forest Plan. The referenced pages do not discuss the subject being commented on. We assume that the comment on thinning refers to proposed BLM and Forest Service mitigation to improve riparian habitat. If so, any riparian thinning would be designed to meet NW Forest Plan standards and guidelines and would undergo additional NEPA prior to implementation. The model results do show a decrease in temperature of less than one-tenth of one degree in a few cases compared to measures temperatures. We agree that this is counterintuitive. The model results can only be used to indicate that there would be little change in temperature, not to predict the exact change.

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SA1-180 The items in this table are proposed as mitigation on federal lands by the BLM and Forest Service. They are well-supported by on the ground experience by these agencies. As noted in the DEIS, these proposals would require separate NEPA analysis. Details, such as the species of tree used for snag creation, would be addressed at that time.

		<p>riparian vegetation since the 1800s.</p> <p>ODFW notes that PCGP staff have developed a water temperature model to evaluate the impacts of the project at specific stream crossings. Table 4.4.2.2-11 identifies through modeling efforts that some streams impacted by the PCGP will be cooler following removal of the riparian corridor. The results of this model seem counterintuitive to the principle of riparian width and size having a direct positive correlation with shading and cooler micro-climates to help keep stream temperatures cold. (Additional information about the scientific merit of this type of treatment is explored in Appendix B of these comments and recommendations below.)</p>	
10	<p>Chapt. 2.0 pgs. 55-119; Appendix M; N numerous notation;</p>	<p><b>Upland Impact/Mitigation Concerns:</b> ODFW has previously provided feedback to the Applicant:</p> <ul style="list-style-type: none"> <li>Regarding snag creation, and elk habitat/forage. Previous feedback for creating forage areas for deer and elk using ODFW's recommended forage seeding mixture was not addressed.</li> <li>ODFW's recommended snag retention concept was addressed, but the species of conifers, minimum diameter at breast height (dbh) used, and number per acre or linear foot were not estimated.</li> <li>ODFW's recommended down wood concept was addressed, but the species of trees, minimum dbh used, linear feet per acre, and number per acre were not estimated.</li> </ul>	<p><b>Disclose Upland Impacts and Require Appropriate Mitigation:</b> (See Appendix A below): ODFW recommends further discussion of upland mitigation proposals in this DEIS, including:</p> <ul style="list-style-type: none"> <li>Mitigation in the form of incorporating specific snag densities, down wood, danger tree replacement, and legacy trees. Many of these rare upland habitat types may provide essential habitat function for critical life stages of fish and wildlife. If habitats or habitat function are mis-categorized and/or critical habitat functions are not adequately compensated for, the proposed mitigation sites may fail to meet or exceed ODFW's specific mitigation recommendations.</li> <li>ODFW recommends further discussions regarding elk and deer forage plantings within the pipeline corridor with the recommendation that production wildlife forage be considered a goal of the final vegetative community in the pipeline corridor.</li> </ul>

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		<ul style="list-style-type: none"> <li>• ODFW's recommended legacy tree concept was not addressed at all including the species of trees, minimum dbh used, and number per acre were not estimated.</li> </ul>	
11	<p>Chapt. 4.5 pg. 449-455 TABLE 4.5.1.2-2; Erosion Control and Revegetation Plan (ECRP) pg. 42 Table 13.13-1; pg. 33 Table 10.9-1</p>	<p><b>Forest and Vegetation Impacts:</b> Table 4.5.1.2-2 (Summary of Construction and Operation-related Disturbance states that 264 acres of mixed conifer/mixed deciduous forest, 176 acres of Douglas fir dominant-mixed conifer forest, 49 acres of white oak, 113 acres of grass-shrublands, 375 acres of grasslands, and 111 acres of forested, shrubland and palustrine emergent wetlands.</p> <p>The DEIS provides reference to documents (CMP) on proposed wetland and waterway mitigation and some planting methods, however, there needs to be continued development of the BMP's for impacts to vegetation and soils in the pipeline corridor as erosion along pipeline corridors during and immediately following pipeline construction can hinder land restoration work, expose shallow laid pipes and risk negative impacts for on- and off-site fish and wildlife habitat resources (Hann et al.).</p> <p>Use of only native herbaceous, shrub, and tree species is prescribed in the DEIS. However; the establishment of vegetation using native grasses, trees and shrubs is often ineffective if there is a lack of understanding of local conditions and their influence on vegetation growth, poor plant/seed selection, inappropriate soil management</p>	<p><b>Disclose Forest and Vegetation Impacts and Require Appropriate Mitigation:</b> ODFW recommends the following:</p> <ul style="list-style-type: none"> <li>• Additional development of BMP's for pipeline disturbance is recommended.</li> <li>• Only native herbaceous (grass/forb), shrub, and tree species be used for restoration of disturbed sites unless natives will be unsuitable for site stabilization or specific species of non-natives are recommended to wildlife forage value. The establishment of vegetation using native grasses, trees and shrubs (although preferable in most instances) may prove ineffective if there is a lack of understanding of local conditions and their influence on vegetation growth, poor plant/seed selection, inappropriate soil management practices and inadequate vegetation management plans.</li> <li>• Generally, ODFW recommends choosing:               <ol style="list-style-type: none"> <li>1. In-kind native species are used to ensure local ecological integrity,</li> <li>2. Use of species adapted to the local climatic and soil conditions, use species with appropriate engineering properties for erosion control,</li> <li>3. Mixture of species with a range of establishment rates, including rapidly establishing species to colonize the area and stabilize the surface and slower establishing species which will determine the composition of the mature vegetation cover.</li> </ol> </li> <li>• Surveying stocking density of forest vegetation on the third growing season across the pipeline route, not only selected segments.</li> <li>• Include prescriptions for restoring shrubs to the corridor, especially in Jackson</li> </ul>

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SA1-181

SA1-181 As stated on page 2-110 of the DEIS, seed mixtures were determined in consultations with the land-managing agencies and the NRCS. The mixtures are listed in Pacific Connector's ECRP, which includes the following: BLM's IM 2001-014 specifies native seed. The BLM and Forest Service will specify genetically appropriate seed sources/seed zones for all species to be planted/seeded on the lands they manages. In forest lands disturbed by the PCGP Project, Pacific Connector will replant according to state and federal (BLM and Forest Service) reforestation requirements. Reforestation planting prescriptions provided by the BLM and Forest Service were used to develop the reforestation prescriptions provided in Table 10.13-1 in the POD.

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	<p>practices and inadequate vegetation management plans. Typically, choosing in-kind native species for revegetation helps ensure local ecological integrity. The use of species adapted to the local climatic and soil conditions include those with appropriate properties for erosion control and mixtures of species with a range of establishment rates. Mixtures should include rapidly establishing species to colonize the area and stabilize the surface and slower establishing species which may also influence the composition of the mature vegetation cover. The mitigation will need to address the permanent loss of vegetation and mitigate for the loss of function that will occur until the vegetation compares to pre-project conditions. Vegetation not directly on waters of the United States may still lead to impacts that have the potential to affect water quality.</p> <p>Human-induced fragmentation of the landscape is among the factors reducing the number of natural corridors and the possibilities of re-colonization of plant and animal species with poor dispersal capacities. This is especially true of amphibians in forested habitats (Todd et. al). A mitigation plan needs to be developed that addresses project related forest, vegetation, and grassland impacts. In fact, the mitigation plan (Appendix I) provides documentation on wetlands and waterbodies, but does not address upland habitat and forest impacts. The DEIS should be corrected to address</p>	<p>County's designated deer winter range. Plans should include efforts to restore <i>Ceanothus</i> spp., which may require scarification.</p>
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		<p>such impacts.</p> <p>In the context of described limits to revegetation of the ROW, the currently proposed impacts to riparian areas may result in net loss of habitat function. The Applicant proposes to keep a ten foot wide area over the pipeline in an herbaceous state and a 30 foot wide area with no trees or shrubs greater than fifteen feet tall. If these impacts are unavoidable, they need to be addressed in the mitigation plan.</p> <p><b>Monitoring of forest Vegetation (FCRP pg. 42 Table 13.13-1:</b> Monitoring of reforestation will take place the first and third fall following planting, on Lakeview BLM and Forest Service lands, but only the first year on the Coos, Roseburg, and Medford BLM Districts and on Private Lands.</p> <p>No shrubs are included in the planting mix, except for Klamath County. Shrubs are an important component of upland habitats in southern Oregon. They are especially important as winter forage on deer winter range in Jackson County. <i>Ceanothus cuneatus</i> is especially important but may require seed scarification.</p>	
12	Chapt. 4, pg. 528 Table 4.6.1.2, pg 530	<p><b>Delineated and Mapped Big Game Winter Habitats:</b> ODFW has digitized biological winter habitats for mule deer, Rocky Mountain elk, and bighorn sheep. Biological winter habitats represent a more accurate representation of functional winter habitats than Goal 5 county planning process adopted winter ranges. ODFW has</p>	<p><b>Disclose Delineated and Mapped Big Game Winter Habitats:</b> ODFW recommends the Applicant use these tools to map and describe big game winter range along the Klamath, Lake, and Jackson County portions of the project alignment in the EIS. These delineated and mapped habitats are categorized as Category 2 Habitats due to the essential and limited functions they provide wintering big game under OAR 635-415-0000 through 0025. These GIS maps were</p>

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SA1-182

SA1-182 Pacific Connector consulted with ODFW on April 21, 2015 to ensure that big game habitat coverage considered for Jackson County in the PCPG Project area considered the Jackson County designated Goal 5 habitat layer; review of the GIS habitat link provided by Steve Niemela on April 21, 2015 confirmed use of the correct GIS layer (same GIS layer/coverage provided to Pacific Connector in 2007). This layer, in addition to other big game winter range coverages compiled for this project (County planning big game winter range coverage in Jackson and Klamath counties provided by ODFW in 2007, BLM and Forest Service big game winter range for Douglas [Umpqua N.F.], Jackson, and Klamath counties, and recently delineated elk winter range in eastern Oregon for a small portion of the Project in Klamath County) was considered as Category 2 in Pacific Connector's habitat mitigation plan in recommended habitats. Habitat not considered Category 2 that fell within these coverages included developed areas such as roads, industrial sites, rock quarries, residences, and other businesses.

Pacific Connector also considered approximately 23 acres of cultivated agriculture land that would be affected by the PCGP Project and overlapped with big game winter habitat GIS coverages listed above as Habitat Category 2. A white paper (dated April 14, 2015) provided to Pacific Connector by ODFW on April 21, 2015 indicated that agriculture land should not be considered Habitat Category 2 and should be excluded from mitigation calculations. Pacific Connector will include this revision to habitat categories in the final Wildlife Habitat Mitigation Plan after ODFW comments on the draft plan.

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		<p>already provided these Big Game Winter Habitat GIS shape files and the 2013 Big Game Winter Habitat White Paper to the Applicant.</p> <p>In addition, ODFW has delineated and mapped winter habitats for migratory black tailed deer on the west slopes of the Cascade Mountains in Jackson county.</p>	<p>referenced in ODFW comments on the project NOI, have been provided directly to the Applicant, and can be accessed via ODFW website. The Jackson County black tailed deer winter habitat maps are available upon request from ODFW.</p> <p>The DEIS catalogs impacts to winter habitats on private property in Jackson County. ODFW requests confirmation in the DEIS that Jackson County's designated Goal 5 habitat was used to generate these figures. ODFW has attached designated Goal 5 Deer and Elk Winter Range habitat in Jackson County to these comments, and recommends habitat within this layer be designated as Category 2 habitat.</p> <p>ODFW recommends avoiding both direct and indirect impacts to wintering deer and elk in these habitats to the extent practicable. If impacts cannot be fully avoided, ODFW recommends minimizing impacts and mitigation of residual impacts consistent with the goals and standards for Category 2 Habitats. Examples of possible mitigation may include purchasing degraded properties within designated winter range and performing habitat improvement projects to mitigate for damage to winter range through likely noxious weed establishment and increased OHV activity. See Appendix A Table 3 for a list of possible improvement projects, and Figure 4 and Table 4 for a list of possible mitigation properties.</p>
13	Chapt. 4. pg. 446	<p><b>Description of Oak Woodlands:</b> Oak woodlands are a unique and highly productive habitat that is limited in quantity. Oak Woodlands have been classified by ODFW under the agency Habitat Mitigation Policy (OAR 635-415-0000-00025) as Category 2. Many of these woodlands have critical function as winter range for big-game and meet life history needs for a variety of migratory birds (e.g.</p>	<p><b>Modify DEIS Description of Oak Woodlands:</b> Recommend adding language that indicates:</p> <ul style="list-style-type: none"> <li>• Oak woodlands require a long-time (100+ years) to reach full productivity and function as habitat, and</li> <li>• Oak woodlands are a limited habitat within the west coast.</li> </ul>

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SA1-183

SA1-183 General information has been added to this section. However, note that this is the "Vegetation" section; therefore, extensive information about wildlife habitats and ODFW Habitat Mitigation Policy and classifications have not been added to this section. This information is found in the Wildlife section (i.e., Section 4.6).



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		Acorn woodpeckers), forest herps and small mammals.  There are 343.39 acres of mature westside oak and dry Douglas fir forest impacted by the pipeline. The DEIS is not clear if this includes black oaks.	
14	Chapt. 4.6 pg. 544	<b>Data Gaps in Table 4.6.1.3-1</b> There appears to be large gaps in this table.	<b>Disclose and Address Data Gaps in Table 4.6.1.3-1</b> ODFW recommends including forested and shrub lands in the row header. The Table should identify information for both Federal and non-federal lands alike.
15	Chapt. 4, pg. 510.	<b>Duration of Habitat Mitigation/Restoration Benefits Commensurate to Habitat Impacts:</b> The DEIS states that non-forested habitats within the temporary construction right-of-way would be restored relatively quickly. "Relatively quickly" is vague term. Shrub steppe habitats can take considerable time to restore to pre-project functional condition especially sage brush species which can take decades to regrow to their previous structural condition.	<b>Quantify duration of Habitat Mitigation and require restoration benefits commensurate to habitat impacts:</b> ODFW recommends impacts to habitats be quantified into reasonable likely time frames measured in years.  ODFW recommends mitigation be proposed to compensate for the temporal loss of impacted and then restored habitats.  FERC should require that the functional benefits of mitigation meet or exceed the likely duration of impacts regardless of if they are estimated to be shorter term, longer term, or life of the project in duration to appropriately reduce the significant environmental impacts of proposed action.
16	Chapt. 4.6 pg. 526	<b>Snag Creation:</b> ODFW recognizes that the current DEIS has greatly improved measures to alleviate impacts to loss of snags through creating snags on the edge of the pipeline Right of Way (ROW). However, these snags will largely benefit species adapted to edge habitats. Details not offered on LWD availability or densities. No discussion of legacy trees  ODFW notes that the Applicant has identified there will be impacts to spotted owl habitat in year one.	<b>Require Snag Creation:</b> ODFW recommends that FERC require the Applicant to create snags outside of the pipeline corridor to benefit species that are less adapted to habitat fragmentation. These efforts should be accomplished in coordination with ODFW and USFWS.  ODFW also recommends that the DEIS outline the LWD densities available for wildlife and identify the importance of legacy trees.

SA1-183  
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SA1-184

SA1-185

SA1-186

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- SA1-184 Cells do not have data because non-forested habitat types did not have seral stage identified, thus acres are identified only in the "total acres" column. Non-federal lands are addressed in tables 4.6.1.2-1 and 4.6.1.2-2.
- SA1-185 Added text to clarify that shrub-steppe would not recover quickly. The text under "General Impacts on Terrestrial Wildlife and Measures to Reduce or Mitigate Impacts" discusses duration of impact as short-term or long-term. Mitigation is discussed in Appendix F of the EIS, and Pacific Connector's Compensatory Mitigation Plan filed with the FERC in April 2014.
- SA1-186 FERC has no authority to authorize or direct the applicant to create snags outside the approved right-of-way. Landowners may choose to create snags on their lands. The Forest Service and BLM have identified areas where they would create snags on land they manage, see table. 2.1.4-1.

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17	Chapt. 2.0 pgs. 55-119; Appendix M; N numerous notation;	<b>Bird Nest Boxes and Habitat Fragmentation:</b> <i>Note: ODFW recognizes that Applicant has to a large degree attempted to address this issue and is no longer proposing this mitigation option.</i> Timber harvest, especially in Late Seral Reserves, will reduce the number of perch and nesting trees and snags. Although the pipeline corridor as proposed will be less than 200 feet in width at any single point, there will be potential for habitat changes that will possibly bring predator species into habitats that were previously less fragmented and less accessible by predators.	<b>Mitigate for habitat fragmentation:</b> ODFW recommends replacement of lost function through snag creation rather than bird boxes to replace project impacts to existing snags or recruitment of new snags over time.  ODFW does not support the use of bird nest boxes as a substitute for snag creation when mitigating for upland habitat impacts. Snags provide a much broader array of habitat functions and values for birds and other wildlife species than bird boxes. Snag creation is a much more appropriate mitigation measure for impacts to forested upland habitats.
18	Chapt. 4, pg. 532, Paragraph 3 Appendix L, Draft Biological Evaluation, Table 1, pg. 9; Appendix L, Draft Biological Evaluation, Table 1, pg. 10; Appendix L, Draft Biological Evaluation, pg. 95	<b>Species Occurrence/Status</b> <b>Species Corrections:</b> The DEIS indicates - "Other species that have been documented within the project area, such as the Oregon spotted frog (a candidate species for listing under ESA)...."  This is incorrect. As recognized in other areas of the DEIS, the species are now federally listed as a Threatened species.  <b>Pacific Fisher:</b> Fisher are not mentioned in the DEIS. However, Fisher may become a listed species in the near future and their presence has been documented in the PCGP route through BLM sampling efforts.  <b>Oregon Spotted Frog:</b> This species is now federally listed.  <b>Gray Wolf:</b> Table 1 lists presence of grey wolves as unknown. Gray wolves	<b>Correct Species Occurrence/Status:</b> ODFW recommends revision of information in the DEIS to reflect the following species occurrence/status information:  <b>Pacific Fisher:</b> The DEIS should consider fisher in the assessment of impacts and incorporate measures to alleviate impacts to fisher.  <b>Oregon Spotted Frog:</b> The DEIS should disclose and require the Applicant to conduct surveys to identify use of habitats in the pipeline corridor by this species.  <b>Gray Wolf:</b> Table 1 should be updated to reflect currently documented gray wolf use in the project vicinity in Klamath County.  <b>Bald Eagle:</b> Table 1 should be updated to reflect accurate bald eagle use in the project vicinity as well as consistent descriptions of nest surveys.  <b>Western Pond Turtle:</b> Table 1 should be

SA1-187

SA1-188

SA1-187 See the previous comment and our response above.

SA1-188 Oregon spotted frog: text in DEIS has been revised to reflect current status. The Oregon spotted frog is further discussed in Section 4.7.1.4. Pacific fisher: Pacific fisher is discussed in Section 4.7.1.1. Gray wolf: Gray wolf is discussed in Section 4.7.1.1. The purpose of the Biological Evaluation is to discuss USFS Sensitive Species on NFS lands only. While the presence of a gray wolf on the Umpqua National Forest has been documented, it is coded as presence unknown because targeted surveys were not conducted for the species as noted in footnote 5 to Table 1. Bald eagle: Table 1 revised. Western pond turtle: The Biological Evaluation is only analyzing effects on USFS lands where the western pond turtle was not documented during targeted surveys, thus location is identified as unknown.

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		<p>have been documented in proximity of the proposed pipeline in Klamath County. Table 1 should be updated.</p> <p><b>Bald Eagle:</b> Table 1 lists presence of bald eagles as unknown, bald eagles are common in many portions of the proposed PCGP route. Elsewhere in DEIS, stated that nest surveys had been conducted for bald eagles, yet Table 1 states that no surveys were conducted. Table 1 should be updated.</p> <p><b>Western Pond Turtle:</b> Table 1 lists presence of western pond turtles as unknown. Western pond turtles have been documented in the immediate vicinity of the pipeline crossing at Klamath River and are likely present at the Lost River crossing.</p>	<p>updated to reflect accurate likely and known occurrences at the two locations. Measures need to be taken to identify known and likely western pond turtle habitats, particularly, nesting habitats. (see below for greater detail)</p>
19	Appendix L, Draft Biological Evaluation, pg. 97	<p><b>Bald Eagle Impacts:</b> The draft Biological Evaluation lists only 2 nest sites within 1-5 miles of the proposed pipeline. A number of other nest sites exist on non-federal lands in Klamath County. The Draft Biological Evaluation states that disturbance to breeding individuals is not anticipated yet, construction activities are planned (pending waiver) for the Klamath County portion of the pipeline which could cause disturbance to nesting eagles. Bald eagles generally begin nesting in early February. Where in the DEIS are potential impacts to bald eagles addressed on non-federal lands?</p>	<p><b>Bald Eagle Impacts:</b> ODFW recommends the Draft Biological Evaluation be updated to correct these inaccuracies and address potential impacts to bald eagles and nest sites on Federal and non-Federal lands.</p> <p>ODFW recommends the Draft Biological Evaluation also be updated to correct these inaccuracies and address potential impacts to bald eagles and nest sites during winter construction in Klamath County and on Federal and non-Federal lands alike.</p>
20	Chapt. 4, pg. 503, Paragraph 2.	<p><b>Eagle nests:</b> "During the non-nesting season, permits are not required to remove an empty or abandoned nest, or to remove or alter the structure the nest is built</p>	<p><b>Eagle nests:</b> The DEIS should disclose that if eagle nests are present, the Applicant should be required to coordinate with USFWS prior to removal of potentially empty or abandoned nests to ensure compliance with</p>

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SA1-189

SA1-190

- SA1-189 The BE is a Forest Service document, it only addresses impacts on National Forest System lands. Bald eagles are no longer a listed species; therefore, they are addressed in section 4.6.1.2 under the heading 'Bird'. Also see the Migratory Bird Conservation Plan.
- SA1-190 This statement has been corrected.

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		<i>in or on."</i>  This statement is true for the nests of many bird species, but does not hold for eagles.	the Bald and Golden Eagle Protection Act (BGEPA).
21	Appendix L, Draft Biological Evaluation, pg. 102	<b>White-headed Woodpecker Impacts:</b> The Draft Biological Evaluation states that timber harvest on federal lands target large diameter ponderosa pine. This was most certainly true in the past but since the 1990s, Forest Service standards and guidelines mostly prohibit harvest of trees greater than 21 inch diameter. A larger threat to white-headed woodpecker habitat is overstocked forest stands as a result of fire suppression and lack of disturbance.	<b>White-headed Woodpecker:</b> ODFW recommends correcting this information in the Draft Biological Evaluation to reflect adjustments to timber harvest management within the range of this species and impacts related to habitat transition.
22	Appendix L, Draft Biological Evaluation, pg. 120	<b>Western Pond Turtle:</b> The Draft Biological Evaluation states that western pond turtles have not been documented on Fremont-Winema National Forest. However, they are documented on non-federal lands in Klamath County, specifically at proposed crossing at Klamath River and potentially at Lost River crossing. The Draft Biological Evaluation also states that in Oregon, WPT are found up to elevations of 3000 feet, yet in Klamath County pond turtles are known to occur at elevations of 4200 feet elevation and likely higher elevations. Potential impact to WPT is likely underestimated and should be reevaluated.	<b>Western Pond Turtle:</b> ODFW recommends correcting information for western pond turtle in the Draft Biological Evaluation.

SA1-190  
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SA1-191

SA1-192

SA1-191 This has been clarified.

SA1-192 The BE only addresses species contained in the R-6 Regional Forester's Sensitive Species List on National Forest System lands.

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23	Appendix L, Biological Evaluation, pg. 124, Lines 25-30	<p><b>Western Pond Turtle Nesting Habitat:</b> The Determination of Effects with regard to the western pond turtle (WPT) states: "In considering the potential direct, indirect, and cumulative impacts, it is determined that the proposed action "may impact individuals or habitat, but is not likely to contribute to a trend toward federal listing or loss of viability of the species" "for the Western pond turtle because impacts would be limited to dispersing individuals as there are no known nesting or overwintering sites within 1 mile of the Project on NFS land, and the Project would impact only approximately 3 percent of potentially suitable habitat within the analysis area."</p> <p>This determination is based on limited and incomplete information regarding the known or potential presence of WPT in Coos, Douglas, Jackson, and Klamath Counties (see BE Page 120, Lines 25-28, and Page 122, Lines 16-20). To date comprehensive WPT surveys have not been conducted in Oregon, however, some work has been done. ODFW is aware of over 1630 records of captured animals from 69 unique sites within the four counties named above. It is likely local Department office observation databases contain many more observations.</p> <p>WPT nests are known to be very difficult to find, and can be located as far as 1/2 mile from their aquatic habitat. WPT are aquatic generalist and will utilize water bodies that include ponds, lakes, reservoirs, and low</p>	<p><b>Disclose and require mitigation for impacts to Western Pond Turtle Nesting Habitat:</b> ODFW recommends either the Applicant should conduct Western Pond Turtle nesting habitat surveys or should assume all habitats within 1/2 mile of a waterway or wetland known to contain Western Pond Turtles be assumed to be suitable nesting habitat if all of the below are present:</p> <ul style="list-style-type: none"> <li>• Clay soils are present;</li> <li>• Vegetation consists of primarily of sparse grasses and forbs;</li> <li>• The slope is less than 60%;</li> <li>• And the habitat is outside of the floodplain.</li> </ul> <p>Department biologists can assist the Applicant with narrowing down the likely locations of Western Pond Turtle nesting habitat for disclosure in DEIS and to identify appropriate mitigation.</p>	
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SA1-193 The Biological Evaluation is an internal Forest Service document that analyzed impacts only on National Forest System lands. Potential upland impacts were included in the analysis of potential impacts to western pond turtle. It is up to the Forest Service to determine if additional analysis or surveys for the western pond turtle are required on the land it manages. The Biological Evaluation is only analyzing effects on NFS lands, so impacts to sites outside of NFS lands are not discussed in the Biological Evaluation.

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24	Appendix L, Biological Evaluation, pg. 1, Lines 2-3	<b>Oregon Conservation Strategy and Oregon State Sensitive Species considerations:</b> The list of species lists considered in the BE (and EA) do not include Oregon Conservation Strategy Species, or the state Sensitive Species List.	<b>Disclose Oregon Conservation Strategy and Oregon State Sensitive Species considerations:</b> ODFW recommends that species on these two list be considered in a revised biological evaluation and FEIS. <a href="http://www.dfw.state.or.us/conservationstrategy/">http://www.dfw.state.or.us/conservationstrategy/</a> <a href="http://www.dfw.state.or.us/wildlife/diversity/species/">http://www.dfw.state.or.us/wildlife/diversity/species/</a>
25	Chapt. 4, pg. 525 2 <sup>nd</sup> Paragraph	<b>Wildlife Survey Methodology #1:</b> The following discusses known raptor nest surveys:  "Surveys of known nests of raptor species with nesting buffers that intersect the pipeline right-of-way would be conducted prior to tree clearing. Those species include bald eagle, great gray owl, and peregrine falcon. If nests are active, clearing trees and disturbance by airplane or helicopter within buffers would be delayed until after the nesting period."  This statement raises the following questions/concerns: <ul style="list-style-type: none"> <li>When would the surveys occur? And if during the early part of the nesting season would there be follow up surveys to determine that the nest was truly inactive? For example, due to the possibility of re-nesting attempts, it would be premature to determine that a golden eagle nest was inactive prior to May 15th.</li> <li>Some raptors have multiple nests and nest establishment can occur within a territory during the onset of any breeding season. Many raptors do not nest in the same nest on individual years.</li> </ul>	<b>Disclose Wildlife Survey Methodology (Nest Survey):</b> ODFW recommends the Applicant provide detailed documentation on proposed nest survey methodology including: <ul style="list-style-type: none"> <li>Protocols, survey timing, and minimum experience requirements for surveyors.</li> <li>Information should be species specific and include means to address all four components of corresponding issue/concern.</li> <li>Raptor nest surveys should occur for both known and new nests prior to clearing of the PCGP ROW.</li> <li>The list of raptors identified for pre-timber falling surveys should be expanded to include golden eagle, northern goshawk, Swainson's hawk, flammulated owl, and short-eared owl. With the exception of golden eagle, which is a federally protected species, the other species are Oregon Conservation Strategy species and/or state Sensitive Species.</li> </ul>

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- SA1-194 The BE only addresses species contained in the R-6 Regional Forester's Sensitive Species List on National Forest System lands.
- SA1-195 Pacific Connector filed their 2008 Biological Survey Report with their June 2013 application. This report includes a summary and resumes of personnel who performed surveys, as well as methods employed. Aerial surveys for bald eagle, golden eagle, and buteo hawk nests would be conducted within 0.5-mile of the pipeline right-of-way and other areas subject to ground disturbances during spring prior to pipeline construction or timber clearing in Year 1 and before pipeline construction in Year 2. Any occupied nests observed would be subject to spatial and temporal buffers appropriate for the occupying species and applied to scheduling construction or timber clearing activities in Year 1 and construction in Year 2. Survey results would be submitted to FWS for review. The USFWS is responsible for enforcing the Migratory Bird Treaty Act. They have been consulted on impacts to migratory birds. See the Migratory Bird Conservation Plan completed in consultation with the Service.

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		<p>"Surveying known raptor nests" would not be sufficient to find and avoid new nests of established pairs and surveying ahead of the construction would also be necessary to find and avoid nests of new raptor pairs that choose to nest in the pipelines path.</p> <p>The qualifications of personnel tasked with conducting the surveys and the survey methodologies are not provided. However, the potential for inappropriate survey methodologies or timing, and the use of unqualified personnel is a concern.</p>	
26	Appendix L, Biological Evaluation, pg. 7, Line 2-4	<p><b>Wildlife Survey Methodology #2:</b> "Initial surveys were conducted in the spring of 2007. Additional surveys were conducted in 2008 and 2010....."</p> <p>In order to attain viable survey results, it is imperative that appropriate survey methodologies are used and the timing of surveys be tailored to each species life history. However, it is unclear (1) what survey methodologies were used; (2) when surveys occurred in the spring of 2007; (3) where the surveys occurred, or (4) which species were surveyed. One might assume red tree vole, northern spotted owl, and great gray owl as those are the only three vertebrate terrestrial species identified in the BE or EA for which surveys were reported.</p> <p>The same questions arise for surveys conducted in 2008 and 2010.</p>	<p><b>Disclose Wildlife Survey Methodology (occurrence survey):</b> ODFW recommends the Applicant provide detailed documentation on proposed occurrence survey methodology including: protocols, survey timing, and minimum experience requirements for surveyors. Information should be species specific.</p>

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SA1-196 Surveys conducted for species discussed in the BE are described under each taxa (e.g., see the introduction to sections 6.2.1 - 6.2.8) as applicable, including survey protocols, survey timing, target species, area surveyed, and a reference to the appropriate survey report for details on survey methodology. The survey reports were provided in the application to FERC in June 2013, and are available on the FERC website. The survey reports additionally contain qualifications and experience of survey personnel.

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27	Appendix L, Biological Evaluation, pg. 9-23, Table 1.	<p><b>Scope of Wildlife Surveys:</b> Based the table of the 42 vertebrate species considered in the document, only 3 (7%) received surveys. 93% of all vertebrate species considered in the document did not receive surveys.</p> <p>ODFW is concerned that not only is the level of survey effort is insufficient to identify specific locations of all species identified by PCGP, and the lack of survey effort may have missed many other species not considered by PCGP. For example those species on the Oregon Conservation Strategy and state Sensitive Species lists that were not considered by PCGP.</p>	<p><b>Disclose limited scope of Applicant-conducted wildlife surveys:</b> Although surveying for every possible species and habitat which could occur along the alignment may not be reasonable, surveying for only 3 of 42 likely vertebrates is too narrow of a survey scope. ODFW recommends the Applicant complete some type of general wildlife surveys perhaps during the spring when the likelihood of observing many of the herptile, bird, and small mammal species would be likely in order to more accurately disclose to the public and decision-makers the potential adverse impacts on wildlife as a result of the proposed action.</p> <p>ODFW recommends any general wildlife survey methodology be coordinated with both ODFW and the USFWS prior to implementation to maximize efficiency and efficacy.</p>
28	Appendix L, Biological Evaluation, pg. 7, Line 2	<p><b>Who is SBS?:</b> "Biological Surveys were conducted by SBS and its subcontractors."</p> <p>It is unclear who SBS is or the qualifications of those who conducted surveys.</p>	<p><b>Disclose appropriate information:</b> ODFW request the Applicant provide names and qualifications of all surveyors and ensure that their qualifications are appropriate for the species groups they surveyed.</p>
29	ES-pg. 13; Chapt. 2.0; Chapt. 3.4.5.4 pg. 505; Appendix K pg. 73; Appendix L, pgs. Throughout; Appendix O	<p><b>Noise and Direct Impacts to Wildlife:</b> The PCGG project will incur substantial disturbance due to direct interaction of construction activities as well as the associated noise. These impacts will likely displace a number of species including MAMU, NSO, and golden eagles, others during construction, with long-term impacts due to the change of the habitat with clearing of the pipeline route.</p> <p>"Noise from construction of the LNG terminal should be similar to typical commercial construction programs, which have noise levels averaging between 47 to</p>	<p><b>Noise and Direct Impacts to Wildlife:</b> ODFW has previously recommended that when any blasting, pile driving, or other loud noise producing activity takes place that the following recommendations are required:</p> <ul style="list-style-type: none"> <li>• The Applicant consult the Oregon Forest Practices Act guidelines for ospreys and great blue herons protections;</li> <li>• The Applicant consult USFWS under the Bald and Golden Eagle Protection Act for federal recommendations to protect bald and golden eagles nests; and,</li> <li>• The Applicant consults USFWS under the Federal Endangered Species Act for federal recommendations to protect spotted owls and marbled murrelets.</li> </ul> <p>ODFW also requests clarification regarding</p>

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SA1-197

Biological evaluations are intended to analyze effects of the proposed actions on species listed in the Region 6 Regional Forester's Sensitive Species List and their habitat. If there are no impacts to species and habitat within the analysis area, these determinations and rationale are disclosed and no further analysis is required. There are 14 such vertebrates for which there are no impacts.

Surveys for sensitive species are not normally conducted unless they are required by another mechanism, such as Survey & Manage. Field observations of habitat conditions in the analysis area and detections of incidental sensitive species may be carried out. Where suitable habitat was documented for Forest Service sensitive vertebrate wildlife, but species-specific surveys were not conducted, presence was assumed and the potential effects of the Project were assessed accordingly.

The Biological Evaluation is an internal Forest Service document. It is up to the Forest Service to determine what standards are needed for review.

SA1-198

SBS is Siskiyou BioSurvey, LLC. The names and qualifications of surveyors are provided in the survey reports referenced in the Biological Evaluation (SBS 2008, 2010, 2011a, 2011b, 2011c). The survey reports were provided in the application to FERC in June 2013, and are available on the FERC website. The survey reports additionally contain qualifications and experience of survey personnel.

The Biological Evaluation is an internal Forest Service document. It is up to the Forest Service to determine qualification requirements for surveyors.

SA1-199

Detail will be added to clarify when noise would occur. Further information on noise can also be found in Section 4.12. The applicant is required to meet the requirements of all laws, as stated in section 1.5.1. Section 1.5.4.5 states ODF is responsible for monitoring compliance with the State Forest Practices Act and that the applicant must obtain approval from the State Forester for its activities. USFWS is responsible for enforcing the ESA and BGEPA. FERC has filed a Biological Assessment to address ESA issues.



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		<p>57 A-weighted decibels (dBA) when measured 2,000 feet away (H&amp;K 1994). However, given the high level of current activity on the North Spit, including existing industrial operations and vehicle and rail traffic, 84 and the temporary and short-term nature of Jordan Cove's construction activities, Project-related construction noise is not expected to adversely affect wildlife in the region."</p> <p>While this notation references the LNG facility, construction noise concerns are considered a substantial disturbance factor for the sum of the JCEP/PCGP project.</p> <p>It is unclear from the above if the timing of disturbance has been considered. For example, if construction of the terminal and related facilities will occur during a 24 hour period, or only during daylight periods.</p>	<p>the potential daily magnitude and duration of construction and operational related disturbances, and determination if these disturbances are likely to occur during periods when currently existing (non-related) disturbances are minimized or absent.</p> <p>ODFW recommends the Applicant re-analyze potential noise impacts to wildlife using a more robust and suitable methodology acceptable to ODFW and the USFWS. If further analysis indicates greater likely impacts to wildlife than this analysis estimates, those additional impacts should be avoided, minimized, and mitigated for (mitigation sequencing), as practicable and in collaboration with Department and USFWS.</p>
30	<p>Appendix M; Appendix O; and Appendix S, some mention. Chapt. 4, pg. 521, Paragraph h 3</p>	<p><b>Conflicting Construction Timing Restrictions:</b> To date the PCGP application has only partially defined the timing of construction actions that will have impacts to fish and wildlife resources (e.g. stream crossings, marbled murrelet nesting, spotted owl habitat impacts). Managing the timing of impact is directly related to minimizing impacts (e.g. rainfall/water quality, sediment transport, nesting of murrelets).</p> <p><b>Conflicting Avian Impact Avoidance Timing Restrictions:</b> Site clearing and timber removal is to occur between October and March to avoid impacts to</p>	<p><b>Correct Conflicting Construction Timing Restrictions:</b> ODFW recommends more fully developing defensible guidelines for:</p> <ul style="list-style-type: none"> <li>• Construction timelines and recommended timing restrictions in coordination with ODFW to minimize impacts to species that have specific vulnerability due low abundance and habitat selection.</li> <li>• The current documents still include potential for unresolved timing restriction and construction scheduling conflicts: i.e. conflicts between seasonal restrictions for bird nesting, winter range habitat, in-water work periods, and T&amp;E species.</li> <li>• Conflicting Avian Impact Avoidance Timing Restrictions: ODFW believes potential impacts to Spotted owls and marbled murrelets from timber cutting, timber removal, clearing and grubbing, blasting, and any other form of disturbance could</li> </ul>

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SA1-200

SA1-200 Avoiding timber-cutting during the breeding season within 300 feet of MAMU stands and 0.25-mile of NSO sites was prioritized in order to avoid removal of nest sites during the breeding season. Pacific Connector has indicated that they cannot adhere to the temporal and spatial restrictions recommended by FWS within 0.25 mile of all MAMU stands and NSO sites, and safely construct the pipeline within two years. Therefore, construction including helicopter activity and blasting is proposed to occur during the breeding season, although daily timing restrictions would be applied within 1/4-mi of MAMU stands, and Pacific Connector would construct within 0.25 mile of NSO activity centers after the critical breeding season. See our BA, available on the FERC's website, for a detailed description of avoidance and minimization measures, as well as potential impacts. Pacific Connector worked closely with FWS to develop timing restrictions during construction to avoid and minimize impacts to MAMU and NSO, and is continuing to work with FWS to develop compensatory mitigation for unavoidable impacts to these ESA-listed species. See Attachment B of Pacific Connector's 2/13/2015 comments on the DEIS for a table of seasonal timing restrictions for the Project's timber felling, logging, clearing, and construction activities as they relate to MAMU, NSO, and other bird species.

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	<p>Spotted Owls and Marbled Murrelets. However, Chapter 4, page 4-637, 2<sup>nd</sup> and 3<sup>rd</sup> bullet state:</p> <ul style="list-style-type: none"> <li>• Blasting for the pipeline trench may occur within 0.25 mile of MAMU stands between April 1 and September 30;</li> <li>• Helicopter use for removal of timber during pipeline construction within 0.25 mile of 9 MAMU stands (7 occupied and 2 presumed occupied) during the breeding period (between April 1 and September 15) could occur and disturb MAMU adults and nestlings, as well as potentially blow nestlings out of the nest tree within 7 MAMU stands (5 occupied and 2 presumed occupied) from rotor wash.</li> </ul> <p>And further, on Chapter 4, Page 4-639, 2<sup>nd</sup> to last bullet states:</p> <p><i>Noise from blasting and helicopter use during pipeline construction within 0.25 mile of NSO sites during the late breeding season would occur and could increase the risk of predation to fledglings that are generally not as able to escape as adults during the latter part of the breeding season;</i></p> <p>Based on the above, it appears timber cutting and grubbing will occur outside the breeding season to protect spotted owls and marbled murrelets, but timber removal via helicopter and blasting at locations with spotted owls and marbled murrelets will occur during the</p>	<p>be further minimized during the breeding season. Specific buffer distances for each potential disturbance type should be coordinated with the USFWS and required in this DEIS.</p>
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SA1-201 A statement that blasting mats are recommended by ODFW whenever the use of explosives is required has been added to the FEIS.

		breeding season. Biologically, protecting the birds from some forms of disturbance during the breeding season while allowing other forms of disturbance may not result in the overall desired avoidance and minimization outcomes for spotted owls and marbled murrelets.	
31	Chapt. 4, pg. 538, Paragraph 5 Chapt. 4, pg. 538. Last Paragraph Appendix L, Biological Evaluation, pg. 43, Lines 25-40 Chapt. 4, pg. 538, 2 <sup>nd</sup> Paragraph	<p><b>Use of Blasting Mats to Minimize Noise Disturbance:</b> The following quote states that blasting mats will be used where the use of explosives is required:</p> <p><i>"Noise from blasting would be short term and localized. The noise associated with blasting activities is reported to be in the range of 112 dB within 50 feet of the trench (see table 4.6.1.2-11), and may cause alarm in wildlife such as mule deer. However, noise from blasting for this Project would be mitigated and expected to generate lower decibel levels, because charges would be underground and muffled with blasting mats."</i></p> <p>However, Page 4-285 (last paragraph) indicates that blasting mats would only be used as necessary to protect adjacent property:</p> <p><i>"Blasting mats or padding would be used on all shots where necessary to prevent scattering of loose rock onto adjacent property and to prevent damage to nearby structures and overhead utilities."</i></p> <p>The message regarding use of blasting mats appears to be inconsistent.</p>	<p><b>Require Use of Blasting Mats to Minimize Noise Disturbance:</b> ODFW recommends that in order to minimize noise impacts to wildlife, blasting mats are used wherever the use of explosives is required.</p>

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Chapt. 4, pg. 521, Paragraph 3	<p><b>Likely Underestimate of Migratory Bird Take:</b> Site clearing and timber removal is to occur between October and March to avoid impacts to Spotted Owls and Marbled Murrelet, but areas without either species will be grubbed and cleared year round. This will result in significant take of migratory birds.</p> <p>Using numbers from "Total Birds Likely or Possible" on table 4.6 1.2-7 (Pg 4-522 &amp; 523), 1660 individual birds are estimated to be displaced, resulting in the loss of close to 10,000 eggs/young.</p> <p>This estimate only considers take from physical clearing and grubbing, but does not include noise or other forms of take.</p>	<p><b>Disclose Likely Underestimate of Migratory Bird Take:</b> This DEIS should disclose the document's likely underestimate of migratory bird take and ODFW recommends a complete reassessment of potential migratory bird take including direct and indirect take occur in coordination with the USFWS - Migratory Bird Program experts.</p>
32	<p><b>Noxious Weeds/Invasive Plants:</b> Invasive species (e.g. noxious weeds) have been identified as one of the seven key conservation issues (threats to conservation) in Oregon in the Oregon Conservation Strategy (Oregon Conservation Strategy; ODFW 2005). Hundreds of thousands of dollars are expended annually on both public and private lands to combat invasion and expansion of noxious weeds and their deleterious effects on fish, wildlife, and their habitats.</p> <p>Specific invasive concerns include:</p> <ul style="list-style-type: none"> <li>• Gorse in the Coos Bay region has had substantial negative impacts on elk production in the Coastal frontal zone.</li> <li>• Scotch broom is considered a substantial factor decreasing</li> </ul>	<p><b>Address deficiency of plan to mitigate impacts resulting from Noxious Weeds/Invasive Plants:</b> ODFW recognizes the efforts of the Applicant in developing the "Integrated Pest Management Plan". However, ODFW recommends that the Applicant complete a more comprehensive noxious weed control plan prior to issuance of a site certification or completion of the NEPA process.</p> <p>ODFW recommends broader scale monitoring for noxious weeds, beyond the targeted sites discussed.</p> <p>ODFW recommends that performance metrics be included in order to document success or failure of the "Integrated Pest Management Plan", and that additional mitigation be undertaken if the final state of the pipeline is not satisfactory regarding avoidance, prevention, and minimization of noxious weeds.</p> <p>ODFW recommends wash stations for</p>

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- SA1-202 The USFWS is responsible for enforcing the Migratory Bird Treaty Act. They have been consulted on impacts to migratory birds. See the Migratory Bird Conservation Plan completed in consultation with the Service.
- SA1-203 ODFW's comments on the applicant's IPMP are noted. The applicants are required to wash equipment, FERC's third party environmental inspectors (EIs) would ensure that this and other required measures during construction are done properly. See section II of FERC's Plan for the duties of the EIs. Also see section III of FERC's Procedures. In regard to the comments that ODFW is not listed as a consulting agency and that ODFW recommends the applicant hire independent noxious weed inspectors to monitor throughout the life of the project, ODFW may wish to discuss this as part of the permitting process.

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	<p>production of elk and deer forage across the Coast range and some of the interior locations of Oregon.</p> <ul style="list-style-type: none"> <li>• It is strategically important that equipment be cleaned prior to moving to different sections of the pipeline.</li> <li>• ODFW considers the risk of weed spread on mitigation sites and where mitigation measures are employed to likely be high rather than "low" as stated Chapt. 4.6 pg. 535.</li> <li>• ODFW is not listed as a consulting agency in the IPMP. The local ODA's weed expert did not know her agency had provided comments when contacted by ODFW. ODFW has concerns that the ODA may not have been coordinated with by the Applicant.</li> <li>• The IPMP states "These surveys were conducted by local biologists who are familiar with priority listed noxious weeds." ODA weed experts have previously expressed concern about people's ability to properly identify noxious weeds. ODFW expresses concerns relating to the credentials/experience of the biologists used?</li> <li>• Pacific Connector's Environmental inspectors will make determinations about washing equipment. The DEIS should disclose how the decision of environmental inspectors be protected from logistic pressures?</li> <li>• The IPMP notes contractors will inspect their own</li> </ul>	<p>equipment be set up to handle aquatic invasive species as well. Equipment should be cleaned between individual subbasins at the HUC 6 level or if the machinery has been in a known area with invasive/noxious weeds.</p> <p>ODFW recommends that FERC include conditions outlining that the noxious weed plan have specific strategies (i.e. cleaning of equipment, monitoring, and control measures) for the JCEP project and individual reaches of the PCGP project.</p> <p>Mowing is considered a preferential treatment to herbicides when effective.</p> <p>ODFW recommends the Applicant acknowledge that the risk of invasion of noxious weeds on the pipeline route and mitigation sites is likely high in this DEIS and FERC ensure the following is required as mitigation:</p> <ul style="list-style-type: none"> <li>• the Applicant fund an Oregon Dept. of Agriculture (ODA) weed extraction teams within the affected counties (See Appendix A, List 4).</li> <li>• inclusion of ODFW in the list of agencies consulted and include our comments for noxious weed management.</li> <li>• listing of the experience/qualifications of the staff used to conduct noxious weed surveys.</li> <li>• assurance that environmental inspectors will have the capacity in their schedule to ensure noxious weed management concerns are addressed.</li> <li>• EI's should inspect new equipment arriving on site. Any protections given to federal lands should also be given to non-federal lands.</li> <li>• development of an incentive/dis-incentive program to greatly increase the likelihood the potential for a contractor driven inspection system (with random EI investigations) to function effectively.</li> <li>• a buffer applied to known noxious weed infestation areas. Accordingly soil should</li> </ul>
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	<p>equipment prior to moving from construction yards to federal lands. This brings up two issues that should be disclosed in the DEIS:</p> <ol style="list-style-type: none"> <li>1. Can contractors adequately perform their own inspections?</li> <li>2. Why is there a distinction between federal and non-federal land for the noxious weed management efforts?</li> </ol> <ul style="list-style-type: none"> <li>• The IPMP notes that EI's will perform random inspections. What kind of consequence will there be if inspections fail? Is there a reward system for compliance? The DEIS should disclose these issues or address/ resolve appropriately.</li> <li>• The IPMP indicates that during reclamation the contractor will return any graded material to infested sites.</li> <li>• The IPMP has indicated cleaning stations will be established at borders of NFS lands and on adjacent BLM lands.</li> <li>• The IPMP indicates that extra monitoring will occur along the ROW in areas with increased likelihood of noxious weed contamination (i.e. known infestations, hydrostatic testing stations) on federal lands for 3-5 years after construction, with additional surveys for 3 years after presumed eradication.</li> </ul> <p>The IPMP details that monitoring of disturbed sites will occur throughout the life of the project by PCGP operational personnel. Properly identifying noxious</p>	<p>not be moved out of these sites. These sites should be treated to prevent spread of noxious weeds to uninfested areas.</p> <ul style="list-style-type: none"> <li>• protection measures for federal lands should also be applied to non-federal lands.</li> <li>• provision of extended monitoring at known infestation sites, dewatering stations, and all other high-risk sites on private lands as well. Monitoring the ROW only likely inadequate.</li> </ul> <p>ODFW recommends that PCGP employ independent consultant noxious weed specialists to conduct periodic on-going monitoring to maintain a sufficient level of certainty that noxious weed issues are addressed. Periodic monitoring needs to be completed for the life of the project on all disturbed ground with special emphasis at known infestation, dewatering stations, and equipment cleaning locations.</p>
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		weeds before they are fully established is an acquired skill. ODFW has concerns with the PCGP ensuring continuous monitoring capable of documenting invasive weeds effectively.	
33	Erosion Control and Revegetation Plan, Chapt. 10.10 Erosion Control and Revegetation Plan, Chapt. 10.9-1, pg. 33	<p><b>Seeding Prescriptions:</b></p> <p><b>Timing of Seeding</b> The ECRP calls for seeding to be conducted within 6 days of final grading, weather and soil conditions permitting, according to FERC's Upland Plan. Seeding in late winter for portions of the ROW in Klamath County could be too late for successful revegetation. This may require coming back the next fall/early winter to conduct seeding to insure that revegetation objectives are met.</p> <p><b>Seed Mixes:</b> Specific Seed Mix 6 and 7 could be improved upon to be more effective and provide greater wildlife habitat function.</p>	<p><b>Seeding Prescriptions:</b></p> <p><b>Disclose importance of timing of seeding and address contingency plan:</b> ODFW recommends the Applicant plan for additional seeding as a contingency if the initial seeding occurs too late to be effective.</p> <p><b>Seed Mixes:</b> ODFW recommends:</p> <ul style="list-style-type: none"> <li>• For Seed Mixture 6, recommend addition of bitter cherry and serviceberry as shrub species to be seeded for M.P. 181-198 in Klamath County, in addition to antelope bitterbrush and birchleaf mountain mahogany.</li> <li>• For Seed Mixture 7, recommend addition of curleaf mountain mahogany to be seeded for M.P. 198-228 in Klamath County in addition to antelope bitterbrush. ODFW recommends that private properties be surveyed prior to construction to determine if non-native plants are dominant. Non-native seed mixes should only be used on properties that already have a significant presence of non-native seed.</li> <li>• Some of the non-native grasses listed tend to establish permanently and out-complete native grasses. Replace non-natives such as bentgrass, red fescue, tall fescue, and ryegrass (annual or perennial) with blue wildrye, California brome, or California oatgrass.</li> <li>• Where needed to compete with established non-native plants (as determined by pre-surveys) ODFW recommends the following non-natives: timothy, orchard grass, white clover, red clover, birdsfoot trefoil, and subterranean clover.</li> </ul>

SA1-203  
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SA1-204

SA1-204 Section III. I. of FERC's Plan includes procedures for securing the site if weather conditions are not suitable for seeding (e.g., mulching and erosion controls), and final restoration procedures when conditions are suitable. Seed mixtures would be determined by the land management agencies for federal lands. We have passed the ODFW's seed mix recommendations to the applicant.

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34	ES- pg. 9, 15 Chapt.2, pg. 2-121; 4.5 pgs. 459, TABLE 4.5.1.2-4; TABLE 4.5.1.2-5 TABLE 4.14.2.3-1; pg. 462; Chapt 4.6 pg. 535; others; Appendix F; IPMP Chapt. 1, Chapt. 2, Chapt. 4, Chapt. 5, Chapt. 6, Chapt. 7. Erosion Control and Revegetation Plan, Chapt. 12.9-1, pg. 51 Chapt. 4.5 pg. 458	<b>ROW Maintenance:</b> Maintenance of the PCGP Right of Way (ROW) will likely restrict natural revegetation, particularly any larger tree or shrub recruits which exceed allowable height thresholds. The method of management (herbicides or mechanical) has potential to impact the capacity, albeit highly altered to support some wildlife.  From experience on previous utility ROWs, herbicides were used to control vegetation resulting in erosion and lack of vegetation for wildlife forage and habitat.  <b>Mowing of ROW Corridors:</b> DEIS indicates that there will be mowing to maintain 30-foot wide pipeline corridor maintenance from April 15 <sup>th</sup> to August 1, during the growing season. Conducting vegetation clearing during this time frame will likely impact nesting grassland and shrub-adapted birds.	<b>Disclose impacts associated with described ROW maintenance:</b> ODFW recommends use of mechanical means to maintain the ROW, with use of herbicide as an exception.  An exception would be in cases where herbicides may be necessary to control noxious weeds at specific locations with specific difficult issues, which should be defined by the Applicant.  ODFW recommends that if herbicides are needed at specific locations, weeds be spot sprayed.  <b>Disclose alternative to mowing of ROW corridors:</b> ODFW recommends maintaining corridor vegetation from September- November to more effectively avoid potential impacts during migratory bird nesting periods.
35	General	<b>Capping Piling to Prevent Perching:</b> For both the JCEP/SDPP and PCGP project ODFW recommends fitting any new pilings with devices to prevent perching of piscivorous birds. This is a standard request from ODFW to Applicants on Fill/Removal permits when the Applicant installs pilings. These caps are readily available.	<b>Require capping of pilings to prevent perching:</b> Predatory piscivorous birds strategically perch around industrial facilities on piling that do not have measures to eliminate the ability of these birds to perch/roost. Ecologically the relevance is related to an increased capacity to feed within the area and impact species such as fall Chinook, coho salmon, and steelhead juveniles.  If additional perch locations are created for piscivorous birds as a result of the proposed project, predation on resident and juvenile fish will likely increase along the project, and would be of particular concern in the vicinity of the project terminus at Coos Bay and near larger rivers such as the South Coos River, South Umpqua, and Rogue.

SA1-205

SA1-206

- SA1-205 The DEIS states that mowing would be the main method of vegetation control within the 30-foot right-of-way. The text further states that clearing WOULD NOT occur during the principal portion of the growing season from April 15 to August 1.
- SA1-206 This information has been added in section 4.6, along with the ODFW recommendation.



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SA1-207 Comment noted. OHV use is discussed in Section 4.10. Pacific Connector's Recreation Management Plan describes measures to be employed on both public and private lands to control unauthorized OHV use.

36	Chapt. 4, pg. 533, 534 Chapt. 4, TABLE 4.1.3.5-32 pg. 151, misc. Recreation Management Plan (RMP)	<p><b>Direct Mortality of Terrestrial Wildlife Species Due to Collisions with Construction Related Traffic:</b> What conditions will be required to minimize vehicle collisions. A fairly high number of deer vehicle collisions were documented during construction of the Ruby Pipeline in eastern Klamath County. In addition there very likely were numerous other wildlife species killed by construction vehicles (small avian species, small mammals, etc.) Will there be additional mitigation for direct mortality of wildlife species?</p> <p><b>Off-Highway Vehicle Barriers:</b> Road closures on pipeline access roads that do not have other utility will be critical to reducing impacts to species such as elk, MAMU, and NSO. Closure of these roads will also reduce winter travel and damage related to recreational motorsport activities that commonly occur in wetlands and streams.</p> <p>Anti-OHV devices are passive and as such will likely only detect damage as it occurs with no capacity to prevent OHV impacts directly when they are occurring.</p> <p>There is no mention of monitoring of the effectiveness of the OHV barriers in the RMP.</p> <p>Despite best management practices and patrols, illegal use of the ROW by OHVs is expected to occur. The need for mitigation should be expected by the PCGP project.</p> <p>ODFW notes that there are</p>	<p><b>Disclose Direct Mortality of Terrestrial Wildlife Species Due to Collisions with Construction Related Traffic and Require Appropriate Mitigation:</b> ODFW recommends the Applicant develop and enforce credible series construction traffic related BMPs such as speed limits to minimize direct mortality of wildlife due to collisions with construction related traffic.</p> <p><b>Disclose and Modify Analysis of Off-Highway Vehicle Barriers to accord with ODFW recommendations:</b> ODFW recommends revisiting analysis and discussion of methods for ensuring that road closures are effective during and post-construction.</p> <ul style="list-style-type: none"> <li>Off-highway vehicle (OHV) barrier proposals were modified by the Applicant through previous comments from ODFW to include boulders and tank traps in addition to signage.</li> <li>ODFW recommends that contingencies be planned in case the proposed OHV exclusion efforts prove ineffective. Such contingencies may require maintenance measures.</li> <li>ODFW recommends security patrols along ROW to discourage OHV use.</li> <li>ODFW recommends a regular schedule for inspection of all OHV barriers along the pipeline route and repair OHV barriers throughout the life of the project. Where necessary exclusion devices should be upgraded.</li> <li>ODFW recommends the PCGP project develop a plan in coordination with ODFW to Plan to mitigate for OHV damage at least in part by Funding law-enforcement patrols within the Jackson TMA, and purchasing and restoring property that has been previously damaged. (See Appendix A, Table 2, Figure 4 and Table 34)</li> </ul>
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		<p>numerous locations in the pipeline route where OHV issues occur. ODFW works cooperatively with partners to maintain Travel Management Areas in the Camel Hump and Obenchain areas to minimize OHV disturbance to wintering wildlife. Department staff is available for consultation on minimizing impacts in these areas.</p>	
37	<p>Chapt. 2.0 pg. 74; General</p>	<p><b>General Inequity of Mitigation between Federal and non-federal Lands and Other Mitigation Discussion:</b> ODFW notes that the DEIS identifies that non-federal lands make up approximately 76% of the area affected by this pipeline. Yet most or nearly all the mitigation recommended through the document is on federal lands. ODFW recognizes:</p> <ul style="list-style-type: none"> <li>• The federal agencies were cooperating agencies</li> <li>• That many of the projects outlined on federal land had previous planning from internal agency effort. However, ODFW fully recognizes the ecological gap created by impacted habitats at a location and conducting mitigation that may be "Out of Kind" or outside the range of "In Proximity." These types of issues create complications for ecological function in relation to compensating for impacts. It could be noted as a rough rule of thumb 3X as much mitigation should be expected on private lands as federal as the percentage of private lands impacted is 3x the quantity.</li> </ul>	<p><b>Address General Inequity of Mitigation between Federal and non-federal Lands:</b> ODFW recommends that the final mitigation plan(s) reflect more mitigation on non-federal lands to correct the current disproportionality.</p>

SA1-207  
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SA1-208

SA1-208 The DEIS identifies the mitigation on federal land required by the BLM and Forest Service. The USFWS and other agencies are working with the applicant to develop mitigation for effects to listed species. The COE will require mitigation for impacts to wetlands and other waters of the United States. See the Habitat Mitigation Plans prepared by the applicants. Also see section 2.1.7 for proposed mitigation.

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		The DEIS notes that Barred Owl control may be utilized as a mitigation for impacts to NSO. However, this is not noted in the federal CMP.	
38	General	<b>Environmental Inspectors:</b> ODFW fully recognizes that properly trained environmental inspectors are able to greatly increase the potential for maximizing habitat conservation measures.	<b>Disclose and Require Sufficient Environmental Inspectors:</b> ODFW recommends that the Applicant determine the number of environmental inspectors they will need and coordinate with state and federal agencies depending on the training they will receive.  ODFW recommends that the PCGP project have environmental inspectors on all active construction segments of the pipeline project.
39	Erosion Control and Revegetation Plan, Chapt. 13, pg. 52	<b>Public Communications:</b> There is currently a significant need for a representative of the JCEP/SDPP/PCGP project to serve as a public communications specialist to the project area constituents.  Additionally there is a need for planning regarding how recreational users of fish and wildlife resources in Coos Bay and along the pipeline route will obtain information concerning the project: e.g. will recreation be restricted at the JCEP site, mitigation site access, pipeline route access; access to the PCGP corridor during construction, etc.)  Restrictions to recreational accessibility can result in substantial impacts to the local economic conditions of affected communities.	<b>Disclose need for development of plan that addresses public communications:</b> The JCEP/SDPP/PCGP project needs to develop a project communication plan in collaboration with ODFW to consult with and inform fishing groups and other recreational users on construction actions on a real time basis. Including but not limited to: <ul style="list-style-type: none"> <li>• Will recreation (clamming, crabbing, and duck hunting) be restricted at the JCEP site during construction/following construction?</li> <li>• Will mitigation sites (Kentuck, wetland mitigation sites) be open to public recreation, hunting, and fishing access during construction/following construction?</li> <li>• Will the pipeline route be open to access for fishing and hunting (the route will cross major salmon and steelhead fishing streams as well as historical hunting locations) during construction/following construction?</li> <li>• Will the Coast Guard restrict recreational access to any portion of the bay, other than the shipping channel during the period when a LNG ship is moving into or out of the bay. Will there be safety restrictions on any portion of the bay when the ship is docked in the slip?</li> </ul>

SA1-308  
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SA1-209

SA1-210

SA1-209 FERC requires third party Environmental Inspectors. These EIS work for FERC not the applicant. See Section II of FERC's Plan and section III of FERC's Procedures.

SA1-210 Comment noted.

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			<p>• How and where will any residual impact to public access or recreational opportunities be fully mitigated?</p>	SA1-216 Cont'd
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References

- Bash, J., C. Berman, and S. Bolton 2001. Effects of Turbidity and Suspended Solids on Salmonids. Center for Streamside Studies. University of Washington, November 2001. p.80.
- Burns J. W. 1970. Spawning Bed Sedimentation Studies in Northern California Streams. California Fish and Game: 56(4) : 253-270.
- Carter, M. W., D. E. Shoup, J. M. Dettmers, and D. H. Wahl 2009. Effects of Turbidity and Cover on Prey Selectivity of Adult Smallmouth Bass. Transactions of the American Fisheries Society Vol. 139:353-361.
- Cleary, J. E. 1987. Turbidity as a Control on Plankton Biomass and Productivity in Estuaries. Continental Shelf Research. Vol 7. 11/12 pp 1367-1381.
- Cusack, C., Harte, M., Chan, S. 2009. The Economics of Invasive Species. Prepared for the Oregon Invasive Species Council. Oregon State University.
- Evans, D., and Associates 2009. Oregon Gateway Marine Terminal Estuarine Resource Mitigation Plan. Prepared for the Oregon International Port of Coos Bay, Coos Bay, OR 97420.
- Federal Energy Regulatory Commission. May 1, 2009. Final Environmental Impact Statement for the Jordan Cove Liquefied Natural Gas (LNG) Terminal and Pacific Connector Gas Pipeline. CP07-444-000/CP07-441-000).
- Federal Register, Vol. 73, No. 28. February 11, 2008. Endangered and Threatened Species: Final Threatened Listing Determination, Final Protective Regulations, and Final Designation of Critical Habitat for the Oregon Coast Evolutionary Significant Unit of Coho Salmon. Pp. 7816-7873.
- Luzier, C. and S. Miller Freshwater Mussel Relocation Guidelines. A product of the Pacific Northwest Native Freshwater Mussel Workgroup. Available at: <http://www.fws.gov/columbiaiver/mw2/communications.htm>
- Hall, J.D., and R.L. Lantz 1969. Effects of Logging on the Habitat of Coho Salmon and Cutthroat Trout. Symposium on Salmon and Trout in Streams. H.R. MacMillan lectures in fisheries: pp355-375.
- Hiatt, M.J., R.P.C. Morgan, D. Shilston., Ts.E. Mirtskhoulava, A.H. Gasca, J. Clarke, and M. Sweeny 2004. Vegetation Establishment and Management for the Restoration of Pipeline Rights-of-Way Proceedings of a Three Day International Conference: Terrain and Geohazard Challenges Facing Onshore Oil and Gas Pipelines: Evaluation, Routing, Design, Construction, Operation. London, UK.
- Hastie L.C., P.J. Boon, M.R. Young. 2000. Physical Microhabitat Requirements of Freshwater Pearl Mussel Margaritifera Margaritifera. Hydrobiologia 429:59-71.

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SA1 Continued, page 144 of 241

- Horpila, J., A. Liljendahl-Nurminen, and T. Malinen 2004. Effects of Clay Turbidity and Light on the Predator-Prey Interaction Between Smelts and Chaoborids. Canadian Journal of Fisheries and Aquatic Sciences Vol 61(10): 1862-1870.
- Irwin, W. H., and F. J. Claffey 1966. Soil Turbidity, Light Penetration and Plankton Populations in Oklahoma Ponds and Lakes. Proceedings of the Oklahoma Academy of Science for 1966. digital.library.okstate.edu/oas/oas\_pdf/v47/p72\_81.
- Kentula, M. E., and T. H. DeWitt 2003. Abundance of Seagrass (*Zostera marina* L.) and Macroalgae in Relation to the Salinity-Temperature Gradient in Yaquina Bay, Oregon, USA. Estuaries Vol. 26, No. 4B, p. 21130-1141. August 2003.
- Lake, R.G and Hinch, S.G. 1999. Acute Effects of Suspended Sediment Angularity on Juvenile Coho Salmon (*Oncorhynchus kisutch*). Canadian Journal of Fisheries and Aquatic Sciences 56:862-867.
- Lévesque, L.M. and Dubé, M. G. (2007). Review of the Effects of In-stream Pipeline Crossing Construction on Aquatic Ecosystems and Examination of Canadian Methodologies for Impact Assessment. Environmental Monitoring and Assessment 132:395-409.
- Luzier, C., Miller, S. 2009. Freshwater Mussel Relocation Guide. Pacific Northwest Native Freshwater Mussel Workgroup.
- Majid, Z.A., Mohsin, R., Yaacob, Z., Hassan, Z. 2009. Failure Analysis of Natural Gas Pipes. Engineering Failure Analysis.
- Newcombe, C.P., and Jensen, J.O.T. 1996. Channel Suspended Sediments and Fisheries: A Synthesis for Quantitative Assessment of Risk and Impact. North American Fisheries Management 16:693-727.
- ODF June 20, 2003. Installation and Maintenance of Cross Drainage Systems on Forest Roads. Oregon Department of Forestry: Forest Practices Technical Note Number 8 Version 1.0. ODF Salem, OR 2003:14p.
- ODF Jan 1, 2003. High Landslide Hazard Locations, Shallow, Rapidly Moving Landslides and Public Safety Screening and Practices. Oregon Department of Forestry: Forest Practices Technical Note Number 2 Version 2.0. ODF Salem, OR 2003:11p.
- ODFW, 2007. Oregon Coast Coho Conservation Plan for the State of Oregon. Oregon Dept. of Fish and Wildlife in Partnership with State and Federal Natural Resource Agencies 2007: 63p; additional appendices.
- OAR 603-052-1200. Oregon Department of Agriculture Noxious Weed Quarantine List. <http://www.oregon.gov/ODA/PLANT/WEEDS/lists.html>.
- OAR 635-100-0040. Oregon Department of Fish and Wildlife Sensitive Species List. [http://www.dfw.state.or.us/wildlife/diversity/species/sensitive\\_species.asp](http://www.dfw.state.or.us/wildlife/diversity/species/sensitive_species.asp).

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- OAR 635-415-0000. Oregon Department of Fish and Wildlife Habitat Mitigation Policy.  
[http://www.dfw.state.or.us/lands/mitigation\\_policy.asp](http://www.dfw.state.or.us/lands/mitigation_policy.asp).
- Oregon Department of Fish and Wildlife Inwater Timing.  
[http://www.dfw.state.or.us/lands/inwater/Oregon\\_Guidelines\\_for\\_Timing\\_of\\_InWater\\_Work\\_2008.pdf](http://www.dfw.state.or.us/lands/inwater/Oregon_Guidelines_for_Timing_of_InWater_Work_2008.pdf).
- Oregon Department of Fish and Wildlife Conservation Strategy.  
<http://www.dfw.state.or.us/conservationstrategy/contents.asp>.
- Pimental, D., Zuniga, R., Morrison, D. 2005. Update on the Environmental and Economic Costs Associated with Alien-Invasive Species in the United States. *Ecological Economics* 52:273-288.
- Reiser, D.W., and R.G. White 1988. Effects of Two Sediment Siz-Classes on Survival of Steelhead and Chinook Salmon Eggs. *North American Journal of Fisheries Management*: 8:432-437.
- Reid, S.M., and P.G. Anderson. 1998. Suspended Sediment and Turbidity Restrictions Associated with Instream Construction Activities in the United States: An Assessment of Biological Relevance. *Proceedings of the International Pipeline Conference*, American Society of Mechanical Engineers, Calgary, Alberta. Vol. 2:1035-1040.
- Reid, S. M., Isaac, G., Metikosh, S., and Evans, J. 2003. Physiological Response of Rainbow Trout to Sediment Released During Open Cut Pipeline Water Crossing Construction. *Water Quality Research Journal of Canada* 38(3): 473-481.
- Runyan, Dean Associates. 2009. Fishing, Hunting, Wildlife Viewing and Shellfishing in Oregon, 2008. Prepared for Oregon Department of Fish and Wildlife Travel Oregon. Dean Runyan Associates. Portland, OR 97205: 72p.
- Skinner, A., M. Young, and L. Hastie, 2003. Ecology of Freshwater Pearl Mussel. *Conserving Nature 2000 Rivers Ecology Series No. 2* English Nature, Peterborough.
- Shanks, A. S., L. Schroeder, and B. Dlouhy 2010. June 2010 Report on the Zooplankton Sampling Adjacent to the Proposed Jordan Cove LNG Terminal. University of Oregon Oregon Institute of Marine Biology. PO Box 538 Charleston, Oregon 97420.
- Suttle, K. B., M.E. Power, J.M. Levine, and C. McNeely 2004. How Fine Sediment in Riverbeds Impairs Growth and Survival of Juvenile Salmonids. *Ecological Applications*: 14(4), 2004 pp. 969-974.
- Todd, B.D., Lühring, T.M., Rothermel, B.B., Gibbons, J.W. 2009. Effects of Forest Removal on Amphibian Migrations: Implications for Habitat and Landscape Connectivity. *Journal of Applied Ecology*. 46: 554-561.
- Thom, R. M., A. B. Borde, S. Rumrill, D. L. Woodruff, G. D. Williams, J. A. Southard, and S. L. Sargeant 2003. Factors Influencing Spatial and Annual Variability in Eelgrass (*Zostera marina* L.) Meadows in Willapa Bay, Washington, and Coos Bay, Oregon Estuaries. *Estuaries Vol. 26, No. 4B, p1117-1129*. August 2003.
- Tripp, D. B., and V. A. Poulin 1992. The Effects of Logging and Mass Wasting on Juvenile Salmonid
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Populations in Streams on the Queen Charlotte Islands. Ministry of Forestry 31 Bastion Square  
Victoria, B.C., V8W 3E7. 1992: 36p.

Waters, T.F 1995. Sediment in Streams, Sources, Biological Effects, and Control. American Fisheries  
Society Monograph 7. Bethesda Maryland 1995. pp79-104.

Wood, P.J., and P.D. Armitage. 1997. Biological Effects of Fine Sediment in the Lotic  
Environment. Environmental Management. 21(2): 203- 217.

**Appendix ODFW:**

Appendix A ODFW Recommended Mitigation Actions: Coos, Coquille, Umpqua, Rogue and  
Klamath Watersheds

Appendix B ODFW Comment Related Supportive Figures, Tables and Information (including  
expanded comments on riparian concerns and recommendations)



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**Forestry, Oregon Department of (ODF)**

Marganne Allen  
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503-945-7240

The following ODF's comments are primarily related to the clearing, grading, construction, operation, and maintenance of project components that would be located across state and privately-owned forest lands.

**Project Activities on State and Private Forest Lands** – This DEIS fails to identify all of the requirements of Oregon Forest Practices Act, Oregon Revised Statute (ORS) 527, and Oregon Administrative Rules (OAR) chapter 629 divisions 605 through 665 for its planned commercial forest activity on state and private forest lands. These requirements apply even though the forest activity is a peripheral component of the project (DEIS Section 4.5.2 Timber). The forest practice rules provide resource protection and to set standards for planning forestry practices including harvesting, road construction and maintenance, protecting water quality in waters of the state, limiting effects on specified wildlife and other resource sites, chemical and petroleum product provisions, fish passage, peak flows, providing for public safety down slope of high landslide hazards, and determining reforestation or land conversion requirements.

**Conversion of Forestlands Resulting from Proposed Action** – While nothing in the Forest Practices Act shall prevent the conversion of forestland to any other use (ORS 527.730), administrative rules address the conversion to non-forest use to ensure the conversion process is coordinated with other relevant federal, state, and local agencies.

**Protection of forestlands from wildfire (Permit to Use Fire or Power Driven Machinery (PDM))** – The Oregon Department of Forestry is responsible for matters related to wildfire on forests within the state and project activities occurring on forest land may be subject to wildfire prevention and suppression requirements of Oregon Revised Statute chapter 477 and the associated administrative rules. In addition, every person conducting an operation inside or within 1/8 of a mile of an ODF forest protection district that uses fire or power driven machinery must first obtain a written permit (within the Notification), also known as a PDM. Fire prevention requirements must be adhered to avoid potentially significant harms to Oregon forestlands and the public. Some of these requirements include but are not limited to: the need to limit or stop work during periods of elevated fire danger, the need to provide firefighting tools, the need to provide water supplies and pumping equipment, the need to provide fire watch personnel, the need to suppress wildfires originating from forest activities and construction, the need to dispose of debris in a specified manner, and the need to accept liability for the state's cost of suppressing wildfires originating from forest activities and construction. Following completion of the initial project activity, operation and maintenance activities will be subject to many of these same fire prevention and suppression requirements. Additional information regarding these requirements is available at the Oregon Department of Forestry's website, <http://www.oregon.gov/odf/Pages/fire/fire.aspx>. This DEIS should identify these requirements, see Section 1.5.4.5, and require the Applicant to comply with the above-described state laws intended to provide resource protection and reduce fire danger in Section 5.2.

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- SA1-211 The FERC DEIS discloses the environmental effects of the proposed project. It is not the objective of a FERC EIS to list all the requirements of every state law. The applicant is required to meet the requirements of all laws, as stated in section 1.5.1. Section 1.5.4.5 states ODF is responsible for monitoring compliance with the State Forest Practices Act and that the applicant must obtain approval from the State Forester for its activities.
- SA1-212 Comment noted.
- SA1-213 Section 1.5.1 of the DEIS states that the applicants are responsible for obtaining state permits. Section 1.5.4.5 states that ODF is responsible for fire protection on state and private land. That section includes the requirement that the applicant obtain approval from the State Forester for its activities.



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The following table sets forth specific comments that identify errors or deficiencies in the DEIS:

No.	Citation	Issue Identification	Recommended Resolution
1	Permits, Approvals and Consultations Section 1.5.4.5, page 1-51, Para 1; Land Use Section 4.1.2.2, page 4-13, Para 4	These sections speak about submissions to meet regulations. This section fails to mention the need for ODF Notifications/Permits for the Use of Fire or Power Driven Machinery and Plans for Alternate Practice.	The DEIS discusses the submission of a written plan to meet regulatory requirements; however, the DEIS must be modified to disclose the importance and need for Notifications. While written plans will indeed be part of the submission, such plans are an accompanying document to a Notification. The Notification serves three purposes: notification of a forest operation (ORS 527.670), a request for a Permit to Use Fire or Power Driven Machinery (PDM, ORS Chapter 477), and notice to the Department of Revenue of timber harvest (ORS 321.550). Notifications are to be submitted via the online E-Notification system ( <a href="http://www.ferns.odf.state.or.us/E-Notification">www.ferns.odf.state.or.us/E-Notification</a> ). A separate notification should be filed for each county and timber owner affected by the project. All notifications require a 15-day waiting period before activity may begin unless a waiver is requested. This project will also result in the conversion of forestland to other land uses (ORS 527.730) or practices not in statute or rule. This would require the submission of a Plan for Alternate Practice and written approval from the State Forester. The DEIS should be modified to include this information and FERC should require compliance to appropriately mitigate impacts to forestlands.
2	Environmental Consequences of Timber Extraction on Federal Lands Section 4.5.2.3, page 4-490, para 2	The DEIS notes that a plan for federal forestlands will address "...previously forested areas within the temporary construction right-of-way and TEWAs would be replanted in accordance with Oregon reforestation rules (OAR 629-610-0000 through 629-610-0090)." However, the DEIS does not address reforestation of private forestlands.	The DEIS should recommend that where land use conversions do not occur, reforestation of private forestlands will need to occur as well.
3	Section 4.2.2.2 Seismic Setting and Hazards,	Forest Practices Act landslide hazard assessment and standards may be applicable.	It is anticipated that most or all landslide public safety hazards associated with the project will fall under other jurisdictions due

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- SA1-214 The requirement for Notifications has been added to section 1.5.4.5.
- SA1-215 The applicant would replant land within the temporary right-of-way based on landowner/land manager direction. It would be up to the private land owner to determine how their forest land would be replanted. In areas where private land is reforested, the OFPA requirement would apply. However, this section only addressed federal lands (e.g., Section 4.5.2.3 is titled "Environmental Consequences of Timber Extraction on Federal Lands"); impacts and measures on private lands are discussed in the previous "non-federal" sections.
- SA1-216 Information that Forest Practices Act Landslide standards may be applicable has been included in section 4.2.2.2.

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	Landslide Hazards Page 4-266 thru 4-278		to land use conversion. Where clearings are not permanent and forest land use is maintained or proposed roads have a combined Pipeline and forest use, provisions for public safety under Forest Practices Act Rule Division 623, road location and construction (Division 625) and harvesting practices (Division 630) may be necessary to appropriately reduce potential public safety issues and significant environmental impacts to forest resources and should be identified in this EIS. Reference to appropriate sections of the final EIS with equal or greater protection standards may also meet requirements.
4	Pacific Connector Pipeline, Construction Impacts and Proposed Mitigation Measures, Accidental Spills of Hazardous Materials  Section 4.4.1.2, Page 4-352  Wildlife & Aquatic Resources, Pacific Connector Pipeline Project, General Impacts on Terrestrial Wildlife and Measures to Reduce or Mitigate Impacts, Herbicides  Section, 4.6.1.2, page 4-536	Forest Practices Act Chemical Rules standards may be applicable.	The DEIS should include applicable standards under Forest Practices Act Rule Division 620 or reference to appropriate sections of the final EIS with equal or greater protection standards related to spills of hazardous materials or applications of chemicals.
5	Surface Water, Oregon Water Quality Regulations and	Forest Practices Act and water quality linkage	The DEIS should be modified to reflect that through the Notification process, provisions for surface water quality under the Forest Practices Act (FPA) and rules will be

SA1-216  
Cont'd

SA1-217

SA1-218

- SA1-217 Information that Forest Practices Act Chemical standards may be applicable has been included in section s 4.4 and 4.6.
- SA1-218 The requirement for Notifications has been added to section 4.4.2.2.

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	Standards Section 4.4.2, page 4-358, Para 2 Section 4.4.2.2, page 4-369 Other sections relevant to water quality		addressed, if applicable. Details would be submitted in either a Written Plan or Alternate Plan. Details may include specific provisions for meeting the FPA or reference appropriate sections of the final EIS with equal or greater protection standards or where land use conversion places water protection under other jurisdictions.
6	Wetlands Section 4.4.3, page 4-404 Estuarine and Open Water Wetlands Section 4.4.3.2, page 4-412	Forest Practices Act and wetland, lake linkage	The DEIS should be modified to reflect that through the Notification process, provisions for wetlands under the Forest Practices Act (FPA) and rules will be addressed (Divisions 645, 650, 655), if applicable. Details would be submitted in either a Written Plan or Alternate Plan. Details may include specific provisions for meeting the FPA or reference appropriate sections of the final EIS with equal or greater protection standards or where land use conversion places water protection under other jurisdictions.
7	Table of Contents	Section 4.7 is not included	Correct error by including Section 4.7.
8	Vol. 4, Section 7 page 4-626 Para 2	This section speaks about additional wildlife species that have special status or consideration by other federal or state agencies, beyond those listed as Threatened or Endangered under the federal ESA. The Oregon Forest Practices Act requires protections for certain wildlife species under Oregon Administrative Rule 629, Division 665. The FPA has specific rules for Northern Spotted Owl nest sites (OAR 629-665-0210); Bald Eagle nest sites (OAR 629-665-0220), winter roost sites (OAR 629-665-0230), and foraging perch sites (OAR 629-665-0240); Osprey nest sites (OAR 629-665-0110), and Great Blue Heron rookeries (OAR 629-	Forestry recommends that the DEIS disclose protections afforded to wildlife under the Oregon Forest Practices Act, and that FERC require such compliance as conditions in its license. Of particular concern is the project's anticipated impact on the great-blue heron. Although this species is protected by law through the FPA, in association with forest operations, it is not addressed as a special status species in the EIS. It is included in the general bird section for wading birds (e.g., page 4-501), but because it is a special status bird in Oregon on forested lands, the DEIS should be modified to address them within the Special Status species section.  Furthermore, these protection standards need to be addressed throughout the EIS. Activities such as timber harvest operations that occur near a known site of one of these species may require a written plan to address how the operation will be conducted to avoid a conflict with the wildlife site. Exceptions to

SA1-218  
Cont'd

SA1-219

SA1-220

SA1-221

## SA1 Continued, page 150 of 241

- SA1-219 The requirement for Notifications has been added to section 4.4.3.
- SA1-220 This has been corrected.
- SA1-221 Information has been added to the FEIS. The applicant is required to meet the requirements of all laws, as stated in section 1.5.1. Section 1.5.4.5 states ODF is responsible for monitoring compliance with the State Forest Practices Act and that the applicant must obtain approval from the State Forester for its activities. The applicant is seeking an Incidental Take Permit for marbled murrelet and northern spotted owl from USFWS.

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		665-0120). Written plans which describe how forest operations will be conducted to avoid a conflict may also be required for operations near known sites of marbled murrelets under OAR-629-0170(5)(d) or OAR-629-0190(2). Similarly, written plans may be required for operations near certain band-tailed pigeon mineral springs or golden eagle nest sites under OAR-629-0170(5)(a) or OAR-629-0190(1).	the FPA rules for spotted owls, marbled murrelets, or bald eagles may apply if the applicant has a valid Incidental Take Permit from the USFWS (or equivalent permit type for bald eagles under the Bald and Golden Eagle Act). Other exceptions would need to be addressed through a Plan for Alternate Practice which must indicate how the operation will be conducted to result in a net equal or greater outcome for the species in question. The DEIS should be modified to correct these deficiencies.	SA1-221
9	Vol. 4, Section 7 page 4-638, pp 2	This section indicates that the Pacific Connector pipeline project will go through or near known nest patches of spotted owls.	Forest operations on non-federal lands near a known nest site of a spotted owl may require a Written plan or Plan for Alternate Practice. This may include a requirement to designate a 70-acre core area of suitable spotted owl habitat, as described in rule in OAR 629-665-0210(1)(a). Exceptions to the FPA rules for spotted owls may apply if the applicant has a valid Incidental Take Permit from the USFWS. Other exceptions would need to be addressed through a Plan for Alternate Practice which must indicate how the operation will be conducted to result in a net equal or greater outcome for the species in question. The DEIS should be modified to correct these deficiencies.	SA1-222
10	Vol. 4, Section 7 page 4-675 pp1	This section describes "other special status species". The FPA and species that receive protection under the FPA are not included in this section.	Forestry recommends the DEIS add the Oregon Department of Forestry and species protected under the Forest Practices Act to this section.	SA1-223
11	Table O-3	Appendix O, Table O-3 lists special status marine mammal and terrestrial wildlife species that may occur near the JCE & PCGP Project. Special status under the Forest Practices Act is not included in this table.	Forestry recommends the DEIS indicate which "State" species are also addressed under the Forest Practices Act in this section. These species include Osprey, Great-Blue Heron (currently missing from the EIS analysis), northern spotted owl, bald eagle, marbled murrelet, golden eagle, and band-tailed pigeon (mineral springs only).	SA1-224

- SA1-222 The applicant is required to meet the requirements of all laws, as stated in section 1.5.1. Section 1.5.4.5 states ODF is responsible for monitoring compliance with the State Forest Practices Act and that the applicant must obtain approval from the State Forester for its activities. The applicant is seeking an Incidental Take Permit for northern spotted owl from USFWS.
- SA1-223 Information has been added to the FEIS.
- SA1-224 Information has been added to the FEIS.

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**Geology and Mineral Industries, Department of (DOGAMI)**

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Since the Jordan Cove LNG terminal facility is directly adjacent to the South Dunes Power Plant (SDPP), these facilities will be subject to very similar geologic hazards. In addition, because the Jordan Cove Energy facility and Pacific Connector Gas Pipeline are dependent on the operations of the SDPP, geologic risk associated with that power plant may directly impact the operations and safety of the LNG facility and pipeline. Therefore, we have attached a copy of our current detailed comments on the SDPP and we recommend these comments be included as part of the EIS.

Additionally, we have listed below our primary concerns for the Jordan Cove LNG terminal and pipeline projects based on our general knowledge of the geologic hazards in these areas and our review of the SDPP. The DEIS should disclose and analyze these concerns and include our recommended actions in Section 5.2 mitigation measures:

1. The proposed facility and portions of the pipeline would be located in the state's highest seismic hazard region and within the tsunami inundation zone, thus, exercising caution to safeguard people, the environment, and the economy is strongly advised.
2. The Jordan Cove LNG site is located within the tsunami regulatory map zone. We recommend that the DEIS recommend complying with the requirements in the following document <http://www.oregongeology.org/pubs/ofr/O-03-05.pdf> and require the Applicant to follow the current Oregon Structural Specialty Code section 1803 and ORS 455.446 and 455.447. We recommend that any mitigation should include life safety level design, which may include, but not be limited to items such as structural and/or geotechnical design, evacuation planning, and education.
3. We would like to emphasize the importance of conducting an independent technical peer review of the interdependencies between the proposed SDPP and the proposed Jordan Cove LNG terminal to evaluate for potential failure modes relating to public safety concerns to ensure that adequate safeguards be considered to control against a cascading failure of both facilities.
4. We recommend FERC disclose, analyze, and recommend in the EIS a monitoring program for the LNG facility, pipeline, and SDPP with regularly scheduled inspections and post event inspections, such as after earthquakes/tsunamis or storms. We further recommend that, based on collected monitoring information and analyses after events, corrective actions are taken to reduce potential future public safety related issues.
5. We recommend FERC undergo a technical peer review of the existing and proposed detailed geotechnical and seismic reports to ensure technical competency and work performed meets state of the practice or other acceptable methods for inclusion in the final EIS. An independent (non-government agency) technical peer review should be performed on the detailed geotechnical and seismic reports to safeguard the public and environment and such review should be done by qualified and licensed geologists and engineers. All technical peer review

SA1-225

SA1-226

SA1-227

SA1-228

SA1-229

SA1-230

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SA1-225 FERC does not permit or regulate this facility. It would be authorized under the ODEQ-EFSC. See section 2.2.2. Seismic hazards for the Jordan Cove site are discussed in section 4.2.1.3.

SA1-226 Comment noted.

SA1-227 Comment noted. As stated in section 4.1.3.4 of the DEIS, Jordan Cove would be required to satisfy the design requirements of Oregon State Specialty Code. See also response to IND1-4.

SA1-228 Comment noted.

SA1-229 Comment noted.

SA1-230 Comment noted.

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comments should be recorded and addressed by the applicant as part of the FERC review process to adequately disclose the risks to the public and decision-makers.

6. Co-seismic hazards at the site of the Jordan Cove LNG terminal facility may be substantial and could include: co-seismic subsidence, tsunami inundation and scouring/erosion, tsunami debris impact, settlement, liquefaction, and lateral spreading. Since most of the proposed hazard mitigation (e.g. tsunami berms, etc.) are proposed to be built on the ground subject to all of these co-seismic hazards, the evaluation and mitigation of these hazards well beyond the tank foundations are critical so that the site does not have cascading failures. Co-seismic hazards along the pipeline may also be substantial and could include: landslides, co-seismic subsidence, tsunami inundation and scouring/erosion, tsunami debris impact, settlement, liquefaction, and lateral spreading. The existing large deep landslides in the coast range can be tens to hundreds of feet deep. Recent studies of existing large deep landslide movements triggered by future large subduction zone earthquakes, estimate displacements will be of tens of feet. The DEIS should be modified to disclose and analyze this information to determine and require appropriate mitigation.

SA1-231

7. Since construction may involve hundreds to thousands of people and last years, we recommend evaluation of the geologic hazards which could affect safety and life safety of these people during the construction period. For example, how will the applicant provide life safety from tsunami during the construction period, prior to the implementation of the final long-term tsunami mitigation? The DEIS should disclose and analyze this risk and evaluate appropriate mitigation. We further recommend that state agency regulatory staff be funded and hired to ensure adequate public safety and environmental protection during the construction and operational life of the facility.

SA1-232

8. We anticipate many landslides and earthquake fault crossings along the proposed pipeline route. Our statewide landslide information database (SLIDO 3.2) appears to have hundreds of landslides along the generalize pipeline route. This number should be considered a minimum, because the existing mapping in SLIDO 3.2 along the route is not lidar based and some of our recent studies in small portions of the Oregon Coast Range Mountains have found thousands of unmapped landslides. Therefore SLIDO is likely missing hundreds to thousands of landslides. The DEIS should be corrected to disclose this likelihood; analyze best means of mitigation and require such measures to appropriately reduce potentially significant environmental impacts to less than significant levels. We also recommend the applicant map the landslides using lidar data along the pipeline route.

SA1-233

**Appendix DOGAMI:**

- Proposed South Dunes Power Plant, Coos County, Oregon, Revised (RAI-1) Pre-Application for Site Certificate (ASC) Appendix Review by DOGAMI (October 14, 2014)
- Proposed South Dunes Power Plant, Coos County, Oregon, Revised (RAI-2) Pre-Application for Site Certificate (ASC) Appendix Review by DOGAMI (November 21, 2014)
- Carlson Geotechnical, Geotechnical Peer Review – Jordan Cove LNG Project, Coos County, Oregon (February 3, 2015)

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SA1-231 Comment noted. Seismic hazards for the Jordan Cove site are discussed in section 4.2.1.3 of the EIS. See section 4.2.1.4 for a discussion of site-specific geotechnical investigations and hazard analysis for the proposed facility. Also see response to comment PM3-46. See section 4.2.2.2 of the EIS for seismic setting and hazards for the pipeline.

SA1-232 Comment noted.

SA1-233 See EIS section 4.2.2.2 on Landslides which describes that published maps, digital data, aerial photographs, and LiDAR were used as part of the investigation effort. Surface reconnaissance was also performed on moderate to high risk, deep seated landslides. Also see our recommendation that Pacific Connector should provide final monitoring protocols and/or mitigation measures for landslides.

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Land Conservation and Development, Oregon Department of (DLCD)-  
CZMA

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The DLCD is Oregon's designated coastal management agency responsible for acting on the required certification of consistency with the Oregon Coastal Management Program (OCMP) pursuant to Section 307(c)(3)(A) of the Coastal Zone Management Act (CZMA). Our comments are therefore specifically directed to the analysis provided in the DEIS of the CZMA-required certification of consistency. While the DEIS addresses many important issues related to other state agency authorities that are part of the OCMP, we defer to these partner agencies for review of specific issues related to their interests and regulatory authority.

The DEIS provides a general discussion of the required CZMA consistency certification at section 1.5.1.9, and a brief analysis and proposed condition for the certification at section 4.1.1.2 and section 4.1.2.2. Specifically, there is a recommended condition at 4.1.1.2 that states:

"Jordan Cove and Pacific Connector should not begin construction of their respective Project facilities until the companies each file with the Secretary a copy of ODLCD's determination of consistency with the CZMA" (DLCD's emphasis added).

It is unclear whether, or in what manner, this condition could or would be enforced. In particular, the use of the word "should" in directing the applicants to not begin construction prior to filing the required consistency certification makes this condition advisory in nature. The DEIS should be modified to correct this deficiency. Most importantly, though not explicitly stated, this language implies that the FERC may issue the requested authorizations for the project prior to (and conditioned upon) a determination of consistency with the OCMP by DLCD. Such an action by the FERC would be contrary to the express language of the CZMA, which requires consistency concurrence prior to the granting of any federal license or permit.

Specifically, the CZMA states, "No license or permit shall be granted by the Federal agency until the state or its designated agency has concurred with the applicant's certification or until by the state's failure to act, the concurrence is conclusively presumed, unless the Secretary, on his own initiative or upon appeal by the applicant, finds after providing a reasonable opportunity for detailed comments from the Federal agency involved and from the state, that the activity is consistent with the objectives of this chapter or is otherwise necessary in the interest of national security." (CZMA § 307 (c)(3)(A)). (Emphasis added). This requirement of the act is implemented by 15 CFR §930.53(d), which likewise states: "No federal license or permit described on an approved list shall be issued by a Federal agency until the requirements of this subpart have been satisfied. Federal agencies shall inform applicants for listed licenses or permits of the requirements of this subpart."

We believe that this requirement of the CZMA is clear and unambiguous: no decision by the FERC to issue the requested authorizations can be made until DLCD has formally concurred with the applicant's certification of consistency. There is specific purpose for the requirement that federal licenses or permits be issued only after concurrence with the state's consistency certification; that purpose is to

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SA1-234 Typically, if the Commission does authorize the Project, that authorization would include conditions that must be met prior to construction. This would include meeting permitting requirements under the CZMA.

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ensure that state program requirements have been fully considered and incorporated into any final federal decision. The implementing regulations of the CZMA clearly anticipate and authorize state imposed conditions to modify a project in order to achieve consistency. Specifically, the provisions of 15 CFR 930.62(d), state: "During the period when the State agency is reviewing the consistency certification, the applicant and the State agency should attempt, if necessary, to agree upon conditions, which, if met by the applicant, would permit State agency concurrence. The parties shall also consult with the Federal agency responsible for approving the federal license or permit to ensure that the proposed conditions satisfy federal as well as management program requirements (see also § 930.4)." 15 CFR § 930.4 further states: "Federal agencies, applicants, persons and applicant agencies should cooperate with State agencies to develop conditions that, if agreed to during the State agency's consistency review period and included in a Federal agency's final decision under subpart C or in a Federal agency's approval under subparts D, E, F or I of this part, would allow the State agency to concur with the federal action."

Given that the federal consistency review could result in state-imposed conditions to modify the project, it is essential that the FERC know the outcome of this review before issuing a decision. To make a conditional decision in advance of the completion of the consistency review creates the risk of inconsistent federal and state decisions in the event that state and federal conditions conflict. Such an outcome would be contrary to the purpose of the CZMA.

Based on these requirements of the CZMA, DLCD requests that the recommended condition at section 4.1.1.2 be eliminated. The DEIS should instead state in clear language at section 4.1.1.2 and at 4.1.2.2 that, pursuant to CZMA § 307 (c)(3)(A), the FERC cannot and will not issue the requested authorizations until DLCD has concurred with the applicant's consistency certification.

SA1-234  
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**Parks and Recreation Department, Oregon Department of, State Historic  
Preservation Office (Oregon SHPO)**

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503-986-0675

When a project occurs in Oregon that requires a federal permit or federal funding, it is considered a federal undertaking. A federal undertaking requires the lead federal agency to account for potential adverse impacts to historic properties. Historic properties are defined in federal law as any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in the National Register of Historic Places. Historic properties, therefore, include much more than just archaeological sites.

The Energy Facility Siting Council (EFSC) process requires adherence to Oregon statutes that address only archaeological sites. As such, when there is a federal undertaking that involves EFSC and Section 106 of the National Historic Preservation Act (NHPA) and its implementing regulations (36CFR800), the latter, more encompassing law is the guiding process. Concurrence with EFSC or Exhibit 5 by the Oregon SHPO does not constitute compliance with the federal law, which is necessary for the project to move forward, because it would not cover the potential for adverse effects to all historic properties, only archaeological sites. The following is what SHPO can currently concur with based on the information we have received from the archaeological work to date:

The draft Environmental Impact Statement (DEIS) states that Jordan Cove LNG terminal facilities, except for the temporary North Point construction workers camp, have involved cultural resource surveys covering 201 miles of the pipeline route 26 pipe or contractor yards, 116 rock source or disposal areas, 497 access road segments and all the aboveground facilities. The results of the surveys include the identification of 104 archaeological sites within the Area of Potential Effect (APE). Of the 104 archaeological sites, 35 have been determined not eligible and require no further work. Additional information or testing is required for 27 archaeological sites and data recovery is recommended for 17 sites that are considered eligible.

An August 2011 Memorandum of Agreement (MOA) between FERC, BLM, Reclamation, USFS and Oregon SHPO describes the plan for addressing adverse effects and additional phased investigations in areas where access was previously denied. The DEIS further recommends finalizing a Memorandum of Understanding (MOU) with the Confederated Tribes of the Siletz Reservation, Confederated tribes of Coos, Lower Umpqua and Siuslaw Indians and Coquille tribe of Indians, and that Pacific Connector should document meetings and agreements with the Cow Creek Band of Umpqua tribe of Indians and the Klamath Tribes. Oregon SHPO concurs with these recommendations. Due to the size of the project, it is still unclear how much of the APE has been surveyed for archaeological sites. The DEIS should correct this deficiency. Oregon SHPO would appreciate an update be provided on what has been surveyed and how much remains based on the entirety of the project undertaking. We have recently received archaeology reports for sites 35CS26, 35CS221 and 35CS227. However, our role in NHPA requires that we concur with the lead federal agency. The reports were submitted by the contractor and the recommendations in the reports need to be federal determinations for us to concur with them or not.

SA1-235

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SA1-235 Page 4-872 in Section 4.11.5 of the DEIS states: "Pacific Connector indicated that about 31 miles of the June 2013 proposed pipeline route has not yet been inventoried; mostly for lack of access. In addition, 74 TEWAs, 3 UCSAs, 5 quarries or rock disposal areas, 11 yards, 1 PAR, 11 TARs, and 280 segments of existing access roads that would be improved remain to be inventoried."

The statement: "the recommendations in the reports need to be federal determinations for us to concur with them or not" is not true. The Oregon SHPO has in the past consistently commented in response to survey reports submitted by the applicants. Consultations with the SHPO is documented in section 4.11.1.1 of the DEIS. Our determinations are provided in section 4.11.3.1. On page 4-870 of the DEIS we wrote: "We find both sites 35CS221 and 35CS227 to be of undetermined NRHP eligibility pending additional investigations, as recommended by the cultural resources consultants and concurred with by the SHPO." Table 4.11.3.2-1 listed site 35CS26 as a previously recorded archaeological site tested by HRA in 2013 with negative results, therefore it should not be considered eligible for the NRHP.

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Currently, Oregon SHPO has yet to receive documents from the lead federal agency or their contractor on the results of reconnaissance-level surveys of the built environment to identify any historic districts, buildings, structures or objects (historic properties other than archaeological sites) that are eligible to the NRHP with an assessment of effect relating to the undertaking described above. The DEIS should correct this deficiency. SHPO remains unable to provide concurrence for the overall project until we receive and review the afore-mentioned information.

SA1-236

**State Fire Marshall, Oregon Office of**

Jason Cane  
[jason.cane@state.or.us](mailto:jason.cane@state.or.us)  
503-994-8201

The rules and regulations that our office operates under are relatively silent on the issue of pipeline safety during pipeline construction and operation. However, our office supports industry good practices and Federal rule and regulations as it pertains to fire safety and emergency response, which should be disclosed in this DEIS and included as recommended mitigation.

SA1-237

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- SA1-236 This statement is not true, so no deficiency needs to be corrected. First, although the SHPO has had the opportunity to comment on the Project multiple times (see section 4.11.1.1 of the DEIS), it never requested a stand-alone survey of the built environment. However, HRA addressed standing historic structures in its July 2009 survey report (see sections 3.4 & 4.2.6-7 of Vol. 1, part 1 of that report). The SHPO accepted that report in a letter dated September 29, 2009.
- SA1-237 Comment noted.

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**State Lands, Oregon Department of (DSL)**

Bob Lobdell  
[bob.lobdell@state.or.us](mailto:bob.lobdell@state.or.us)  
503-986-5282

DSL has also identified the following deficiencies in the DEIS:

No.	Citation	Issue Identification	Recommended Resolution
1	Figure 2.1-1 (Page 2-2) Project location map	Does not identify all currently proposed mitigation sites and identifies the N. Panhandle mitigation site which is no longer proposed	Please update this figure to correctly identify project related components
2	2.1.1.2 (Page 2-4) Access Channel	Does not correctly identify the current status of the Proprietary Authorizations	A 30-year easement for access to the apron scour and access channel has been issued (APP 43982). A Sand & Gravel License for the removal of and royalties for state-owned material has not been finalized (APP 43984).
3	2.1.1.3 (Page 2-8) Marine Slip and Berth	Does not identify the necessary Proprietary Authorizations	Sand & Gravel Lease/license required for royalties for state-owned materials on site. No application submitted.
4	2.1.1.10 (Page 2-20) Other Terminal Support Systems – Water Systems	Does not fully identify the existing Proprietary Authorizations	Ocean discharge – 40-year easement issued to Weyerhaeuser in 1984 being transferred to Port of Coos Bay (APP 51608).
5	2.1.1.11 (Page 2-26) Dredged and Excavated Material Disposal – Construction of the Marine Facilities	Does not identify the necessary Proprietary Authorizations	Sand & Gravel Lease/license required for royalties for state-owned materials on site. No application submitted.
6	2.1.1.11 (Page 2-28) Operational Maintenance Dredging, Site F disposal	DEIS states that Jordan Cove would have to obtain a permit from the COE for ocean disposal at Site F of operational maintenance dredged material from the LNG Terminal slip and access channel.	DEIS should state that Jordan Cove would have to obtain a permit from the COE and DSL for ocean disposal at Site F of operational dredged material from the LNG Terminal slip and access channel.
7	2.1.1.12 (Page 2-28) Wetland Preservation and Mitigation Areas	Omits one of the pending mitigation sites, involving Proprietary Authorizations	Eel Grass Mitigation site: Conservation easement applied for by Port of Coos Bay under OAR 141-122 in 2010, not finalized (APP 38462).
8	2.1.1.12 (Page 2-28) Wetland Preservation and Mitigation Areas	Fails to recognize access requirements to conduct mitigation work, involving Proprietary Authorizations	Kentuck Slough wetland area may need Short Term Access Agreement for potential work to be done in tidally influenced waters of the state, depending on final design.

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**SA1 Continued, page 158 of 241**

- SA1-238 The map has been updated.  
SA1-239 Information has been added.  
SA1-240 Information has been added.  
SA1-241 Information has been added.  
SA1-242 Information has been added.  
SA1-243 Information has been added.  
SA1-244 Information has been added.  
SA1-245 Information has been added.

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9	2.1.1.14 (Page 2-30) Temporary Construction Use Areas	Does not address requirement for Proprietary Authorizations	North Point Work Force Housing Project will require Sand & Gravel Lease/license for royalties for state-owned materials on site. No Application submitted.	SA1-246
10	2.1.2.1 (page 2-30) Pipeline	Does not address Proprietary Authorizations that would be required for areas where pipeline crosses DSL owned property	Easements for crossings on submerged/submersible and upland properties are required. Applications submitted and under review (App 56481, 56495, 56495, 56494, 56484, 56490, 56483, 56482, 56522 and 56518). *Rogue River crossing is under appeal on the ruling of navigability.	SA1-247
11	2.1.2.1(page2-30) Pipeline	Does not address Proprietary Authorizations that would be required for other areas involved in proposal.	Easements required for additional temporary work areas within Haynes Slough and also upland Trust property (Jackson County). Applications submitted and under review (APP 56516 and 56517).	SA1-248
12	2.2.5 (Page 2-81) Port Activities	In describing the Port's future intermodal container complex, it describes Henderson Marsh being on the east side of Jordan Cove's marine slip.	It should be clarified that Henderson marsh is a large wetland area and is west of Jordan Cove's marine slip. Development of this concept would likely require regulatory and proprietary authorizations.	SA1-249
13	2.3.1 (Page 2-82) Jordan Cove Liquefaction Project Facilities 2.3.2 (Page 2-83) Pacific Connector Pipeline	Does not address the possible need for exclusion zones that may be needed for plant, pipeline and vessel security that would require Proprietary Authorization.	Special Use and/or Waterway Lease may be required for possible exclusion zones.	SA1-250
14	2.4.1.1 (Page 2-93) North Point Workforce Housing Complex	Does not address Proprietary Authorizations that would be required to develop the workforce housing complex	Easement would be required for proposed bridge between the islands of the Workforce Complex crossing state-owned tidal channels. No application submitted.	SA1-251
15	2.4.1.1 (Page 2-93) North Point Workforce Housing Complex	Does not identify the necessary Proprietary Authorizations	Sand & Gravel lease/license required for royalties for state-owned materials on site. No application submitted.	SA1-252
16	2.4.1.2 (Page 2-95) Other Pre- Construction Activities and Temporary Construction Facilities	Does not provide current status of relevant Proprietary Authorizations.	5-year Wharf Registration was issued Oct. 1, 2010 for Construction Dock area (APP 43983). May need to be revised with change to export option and barge dock redesign.	SA1-253

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## SA1 Continued, page 159 of 241

- SA1-246 Information has been added.
- SA1-247 Information has been added.
- SA1-248 Information has been added.
- SA1-249 Information has been added.
- SA1-250 Security issues, including potential exclusion zones, are addressed in section 4.13. The possible need for additional leases has been added to the land use section 4.1
- SA1-251 Information has been added.
- SA1-252 Information has been added.
- SA1-253 Information has been added.

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SA1-254 Information has been added.

SA1-255 Information has been added.

17	4.13.6.4 (Page 4-980) Coast Guard Recommendations	Does not address the possible need for exclusion zones that may be needed for vessel security that would require Proprietary Authorization.	Special Use and/or Waterway Lease may be required for possible exclusion zones.	SA1-254
18	1.5.1-1 (Pg 1-30)	Inaccuracies in table.	Correct Errors: Update table 1.5.1-1 (Pg 1-30) as follows:	
	<b>Authority</b>	<b>Agency Action for Jordan Cove or Pacific Pipeline</b>	<b>Status</b>	
	ORS 196.795-990 OAR 141-85	Approve removal and fill of material in waters of the state for impacts related to the Jordan Cove LNG Terminal	Jordan Cove LNG Terminal Application 54908-RF-deemed complete pending land management signature-public review will be coordinated with Pacific Connector Gas Pipeline (PCGP) application and is anticipated in 2015.	
	Easements OAR 141-122 Trust and Non-Trust Lands – Jordan Cove	Jordan Cove Pipeline Outfall – Ocean (submerged lands)	40-year easement issued to Weyerhaeuser in 1984 (APP 51608) being transferred to Port of Coos Bay.	
		Jordan Cove - Scour Apron, Access Channel (submerged lands)	30-year easement issued to Port of Coos Bay, July 2012 (APP 43982).	
		Jordan Cove - Railroad bridge crossing Coos Bay (submerged lands)	30-year easement issued to the Port of Coos Bay in 2003 (APP26308).	SA1-255
		Jordan Cove – bridge crossing between locations at Workforce Housing (submerged lands)	Requires easement from DSL to Jordan Cove.	
		Jordan Cove – Eel grass conservation easement for mitigation (submerged lands)	Port of Coos Bay applied for easement under OAR 141-122 in 2010, authorization not completed (APP 38462).	
	ORS 196.795-990 OAR 141-85 OAR 141-90	Approve removal and fill of material in waters of the state for impacts related to the Pacific Connector Gas Pipeline (PCGP)	PCGP Application 54484-RF- completeness under review -public review anticipated in 2015.  An updated wetland delineation report is required for the pipeline alignment.	
	Easements OAR 141-122 Trust and Non-Trust Lands – Pacific Pipeline	Pacific Pipeline – Haynes Inlet pipeline (submerged lands)	Easement applied for (APP 56481) and under review.	
		Pacific Pipeline – Haynes Inlet extra work area (submerged lands)	Easement applied for (APP 56516) and under review.	
		Pacific Pipeline – Kentuck Slough pipeline (submerged lands)	Easement applied for (APP 56495) and under review.	
		Pacific Pipeline – Coos River pipeline (submerged lands)	Easement applied for (APP 56494) and under review.	

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	Pacific Pipeline – Vogel Creek pipeline (submerged/submersible lands)	Easement applied for (APP 56492) and under review.
	Pacific Pipeline – Lillian Creek pipeline (submerged/submersible lands)	Easement applied for (APP 56484) and under review.
	Pacific Pipeline – Lillian Creek tributary pipeline (submerged/submersible lands)	Easement applied for (APP 56490) and under review.
	Pacific Pipeline – Stock Slough pipeline (submerged/submersible lands)	Easement applied for (APP 56483) and under review.
	Pacific Pipeline – Catching Slough pipeline (submerged/submersible lands)	Easement applied for (APP 56482) and under review.
	Pacific Pipeline – Rogue River pipeline (submerged/submersible lands)	Easement applied for (APP 56522) and under review. This section of the Rogue River is under appeal as to navigability.
	Pacific Pipeline – upland pipeline Trust Lands – Jackson County	Easement applied for (APP 56518) and under review. May require timber cruise, according to ODF practices, for merchantable timber.
	Pacific Pipeline – upland, temporary work area Trust Lands – Jackson County	Easement applied for (APP 56517) and under review. May require timber cruise, according to ODF practices, for merchantable timber.
Sand & Gravel Lease/Licenses OAR 141-014	Jordan Cove – Scour Apron, Access Channel	Sand & Gravel License required for the removal of and royalties, if applicable, for state-owned material. Applied in 2010 (APP 43984), not finalized.
	Jordan Cove – Marine Slip	Sand & Gravel License required for royalties for state-owned materials on site. No application submitted.
	Jordan Cove – Workforce Housing	Sand & Gravel License required for royalties for state-owned materials on site. No application submitted.
Lease and Registrations OAR 141-082	Jordan Cove – Wharf registration	5-year Wharf Registration issued Oct. 1, 2010 for Construction Dock area (APP 43983) and will need to be recertified. If activities on the dock are proposed that do not meet the wharf exemption, a waterway lease may be required.
Special Uses OAR 141-125	Jordan Cove – Short Term Access Agreement Kentucky Slough mitigation	May require Short Term Access Agreement to do work within mitigation area of tidally influenced water, depending on final design.
Special Use OAR 141-125	Terminal and possible pipeline exclusion zones	May require leasing of state-owned lands for exclusion zone purposes, depending on final design.

SA1-255  
Cont'd



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#### Transportation, Oregon Department of (ODOT)

Susan White  
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503-986-3519

The Oregon Department of Transportation (ODOT) has the responsibility to preserve the operational safety, integrity, and function of the state's highway facilities. ODOT must also ensure that improvements to the highway system can be accomplished without undue impacts or damage to utilities within the highway right-of-way. It is ODOT's understanding that the proposed Jordan Cove LNG terminal facility and Pacific Connector pipeline project and associated activities could or will interface with state highways by crossing the highway, running parallel to the highway within the right-of-way, or running parallel to the highway just outside of the right-of-way. It is also ODOT's understanding that additional access may be needed to ODOT's facilities, and that traffic on ODOT's facilities may increase due to the projects (both during construction and upon project completion during regular operations and project maintenance).

#### General Requirements

Construction that may impact the state right-of-way is subject to Oregon Revised Statute (ORS) 374.305 under which no person, firm, or corporation may place, build, or construct on any state highway right-of-way, any approach road, structure, pipeline, ditch, cable or wire, or any other facility, thing, or appurtenance without first obtaining written permission from ODOT. The DEIS should disclose these requirements and FERC should expressly require developers (Jordan Cove Energy Project, L.P. and Pacific Connector Gas Pipeline, L.P.) to obtain permits from each ODOT District Office where project work will occur prior to commencing construction within the highway right-of-way or usage of access connections to the right-of-way. The developer must also meet the requirements in Oregon Administrative Rule (OAR) Chapter 734 Division 51 for approach permitting and Division 55 for utility permitting through special provisions and should review rule requirements before completing plan sets and construction plans to understand stipulations related to the construction phase and future project operations and maintenance. (ODOT Districts have some discretion in the issuance of a permit in order to address site specific situations such as weather/season, traffic volume, terrain, etc.)

The following conditions must be fulfilled before a permit to work in the ODOT right-of-way will be issued and the DEIS should address and recommend these actions:

- Developers must notify and work directly with ODOT where the proposed location of the terminal and pipeline facilities and associated activities are shown to be within the Potential Impact Radius (PIR) of any state highway. The PIR is based on minimum federal safety standards found in 49 CFR Part 192.
- Developers shall provide ODOT with a set of plans that include, but are not limited to, detailed construction staging plans for the terminal facility and associated LNG transfer facilities (e.g., Wharf, LNG storage tanks), expansion of upland industrial lands and access road improvements as well as pipeline route maps and construction staging plans. Developers will work with ODOT to develop design standards for all pipes and related structures within the PIR of a state highway. Design requirements include the following:
  - Minimum of 10 feet of cover from the top of the pipe will be the norm unless special acceptance of a lesser amount is authorized for a specific reason. A minimum of 10 feet of cover should be used as the standard within ODOT right-of-way (more specific details can be found further in these comments).

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SA1

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- SA1-256 The Project does not including moving utilities onto the highway easement.
- SA1-257 The Project does not including moving utilities onto the highway easement.
- SA1-258 As it states in section 1.5.1, the applicants must comply with state permitting requirements, laws and regulations. It is their responsibility to do this, any decision by the Commission would be conditioned on meeting these requirements.

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SA1

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- All pipe crossings of the highway shall be properly cased or for uncased pipeline crossings, a substantial increase in the pipeline design standards will be required.
- In no instance shall the pipeline be installed in an open trench across a state highway (more details follow).
- In no instance shall the pipeline attach to or be suspended within highway bridge structures.
- Highway access to all pipeline surface structures and assemblies, such as but not limited to gate valves and monitoring equipment, shall comply with OAR 734 Division 051. A preferred location for pipeline surface structures and assemblies is to be placed outside state highway right-of-way.
- Temporary access locations, used for construction activities, shall also comply with OAR 734-051. Modifications appropriate to provide safe operation shall be constructed at all temporary access locations, prior to construction usage. Safety modifications must be removed; and the highway and access points shall be returned to their original condition upon completion of construction activities.
- Applicant must address specific site concerns associated with their terminal and pipeline route and associated project facilities. These concerns shall be addressed to the satisfaction of the appropriate Oregon Department of Transportation District offices prior to issuance of a permit to perform work within the state's right-of-way.
- Annually, or as changes dictate, updated emergency contact information (names and phone numbers) shall be delivered to each ODOT District Manager in which the terminal and pipeline and associated project facilities may affect state highway operations and maintenance activities.

SA1-258  
Cont'd

The DEIS should identify that developers, here, the Project Applicants, have the sole responsibility to ensure that all required environmental statutes and codes are completely met. The Project Applicants are responsible to secure all state, federal, and local permits and clearances as required under federal, state, and local statutes or codes for all areas within ODOT right-of-way that are impacted by the development, and the DEIS should disclose these requirements.

SA1-259

The DEIS should disclose that all impacts to the traveling public on state highways must be approved by the ODOT local District office(s). Utility coordination will be the responsibility of the developers. The terminal and pipeline projects will need to provide traffic mitigation for all state highways affected, and the mitigation approved by ODOT prior to and for the duration of the impact.

SA1-260

**Specific Comments**

Specific comments about elements of the DEIS are as follows:

**Highway Classification**

The information provided in the DEIS raises numerous concerns that warrant further analysis. Of key importance is the categorization of "federal roads" and "non-federal roads." It is unclear what roads are included as "non-federal roads". The DEIS should so clarify. A permit from ODOT is required for any work on a highway that is part of the state highway system, including but not limited to Interstate highways, other highways on the National Highway System, and routes on the federal-aid highway system. It would be prudent to specifically identify those roads categorized as part of the National Highway System, State Highway System, County Highway System, and local or private roads. Properly identifying the correct highway classification is necessary to submit permit requests to the correct

SA1-261

SA1-259

As it states in section 1.5.1, the applicants must comply with state permitting requirements, laws and regulations. It is their responsibility to do this, any decision by the Commission would be conditioned on meeting these requirements. Also see section 4.10.2.3, the applicant must consult with ODOT regarding road impacts and prepared a revised transportation management plan if there are substantial comments.

SA1-260

Impacts to the traveling public are discussed in section 4.10. Also see section 4.10.2.3, the applicant must consult with ODOT regarding road impacts and prepared a revised transportation management plan if there are substantial comments.

SA1-261

Federal roads refers to BLM and Forest Service roads.



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agency and to disclose to the public and decision-makers the full range of impacts resulting from the proposed action.

Not all of the highways listed on DEIS page 4-846, "Major state and federal highways that would be crossed by the pipeline include" are state highways and other state highways that will be crossed appear to be missing from the list as per below. The DEIS should correct these deficiencies:

- Highway 227 (Tiller Trail) (MP 94.7) in Douglas County is shown in error as a state highway and is under Douglas County jurisdiction. ODOT's jurisdiction would only apply to highways that are part of the state highway system including Interstate highways.
- State Highway 241 was omitted and should be added to the Coos County section.
- In addition, ODOT's Midland Highway 420 (Tingley Lane) is also missing from this section of the DEIS and should be included.

SA1-261  
Cont'd

**Permits, Approvals, and Consultations**

Although ODOT is listed in Table 1.5.1-1 (Page 1-31), the *Initiation of Consultations and Permit Status* column should be expanded to include "Applications for ODOT Approach and Utility Permits" to be submitted with enough advance notice, which could be up to 12 months or more depending on individual District requirements, prior to construction activities to insure adequate time to review the specific proposals. Sufficient time is needed in order to ensure ODOT Districts have sufficient time to review the specific proposals, and for the developer to incorporate and construct mitigation measures as needed prior to uses occurring on ODOT facilities and right-of-way.

SA1-262

Beginning on DEIS Page 1-48, Section 1.5.4 *State Agency Permits and Approvals*, ODOT is missing from the section and should be included, primarily to describe the processes we've outlined in these comments to reflect needed permits and approvals by the project. The Project Applicant should ensure their proposals for permitting through ODOT conform to the standards and comments included herein. Transportation permits may include, but are not necessarily limited to, approach permits and coordination, utilities permits and coordination, and over-dimensional trip permits for over-size loads (see following for more detail).

SA1-263

**Traffic Access and Mitigation**

Traffic analysis information provided in the DEIS is not consistent with ODOT information, or is missing entirely. This information should be corrected and submitted prior to approval from ODOT and then displayed appropriately in the DEIS prior to public review. Additionally, traffic mitigation during construction that would disrupt traffic operations must be approved prior to permit issuance.

SA1-264

Access to the LNG terminal, as well as access to the pipeline connector compression station, will require an up-to-date traffic impact analysis (TIA) be submitted by the developers, per OAR 734-051-3030(4).

The data presented in the DEIS concerning the TIA in the area of the LNG terminal and associated facilities is outdated and does not reflect the current proposals and findings of the additional 2014 addendums that ODOT has been commenting on over the last several years. These new proposals, including a workforce housing area with busing of the workers and other earthwork proposals, substantially change the findings of the 2008-2010 TIA used in this DEIS for the terminal project. Other traffic impact analysis information is either incorrect, inconsistent/not up to date, or missing entirely in the DEIS.

SA1-265

**SA1 Continued, page 164 of 241**

SA1-262 Information has been added.

SA1-263 Information has been added.

SA1-264 Information on traffic has been updated. It is the applicant's responsibility to meet state permitting requirements, any decision by the Commission would be conditioned on meeting these requirements.

SA1-265 Information on traffic has been updated.

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ODOT requests the updated David Evans and Associates Inc. (DEA) traffic studies and addendums with their findings be used and the DEIS reflect the new traffic findings. With the 2014 addendums to the 2012 TIA, mitigation measures listed on page 4-839 are incomplete and while some may not be needed, additional mitigation measures will need to be added to this list. ODOT will need to work with the Project Applicant and/or DEA to correct this information and add it to the DEIS for public comment.

SA1-266

ODOT is developing a Construction Improvement Agreement with the contractor to facilitate all the agreed temporary and permanent traffic mitigation needed for the construction of the gas terminal facility. Specifically, ODOT District 7 requests that prior to construction, the Construction Improvement Agreement be established between ODOT and the contractor to facilitate all the agreed-to temporary and permanent traffic mitigation needed for the construction of the gas terminal facility.

SA1-267

On DEIS page ES-11, please note that Pacific Connector's Transportation Management Plans (TMPs) must be submitted for ODOT District review sufficiently in advance of construction activities to allow for plan changes (revisions) and the construction of mitigation measures at all state highway access points. District 11 requests this information be submitted preferably at least one construction season in advance of pipeline construction activities. The DEIS should be updated to reflect these requests.

SA1-268

In addition to Pacific Connector's TMP noted in the DEIS (page ES-11), Pacific Connector may be required to submit Transportation System Impact Analysis (TIA) documentation that reviews the operational impacts of construction related usage at ODOT highway connections. In general, usage of a highway connection by more than ten "over 26,000-pound" vehicles a day will require TIA analysis, along with the TMP. Connections that will require a TIA will be determined when the pipeline route and proposed usage at all access connections are finalized.

SA1-269

District 11 requests review and comment (and approval) of any TIA and proposed mitigation for the pipeline connector compressor station and associated pipe storage yards and other proposed facilities in the affected area. This updated information should be displayed in the DEIS for public comment.

SA1-270

ODOT requests the updated David Evans and Associates Inc. (DEA) studies and addendums with their ODOT approved findings be used and the DEIS reflect the new traffic findings.

SA1-271

This will also require updates in the Executive Summary under the Socioeconomics and Transportation section, the 4.10.1.2 Motor Vehicle Traffic section, as well as updating the 5.1.10 Transportation section under Conclusion and Recommendations. Updates should be made in the DEIS in all locations that discuss traffic and transportation impacts and proposed mitigations.

#### Over-sized Loads

The Transportation section of the DEIS should include a fairly definitive reference to the Over Dimensional (O-D) permitting requirements for the operation of the pipe delivery trucks, and any other over-dimensional loads, that will operate on state highways. O-D permitting on ODOT highways requires District approval for specific length trucks. Routing, time-of-day and pilot vehicle requirements will be enforced, as appropriate, for the "hauling routes" in all ODOT Districts. The developers should reference ODOT's Mobility Procedures Manual for permitting procedures and requirements:

<http://www.oregon.gov/ODOT/MCT/docs/MobilityProcedureManual.pdf>

SA1-272

## SA1

## Continued, page 165 of 241

SA1-266 Information on traffic has been updated.

SA1-267 Information on traffic has been updated.

SA1-268 The Executive Summary does not contain information on any permits, and we do not feel that it is an appropriate place to discuss permits (i.e., no change made). This permit requirement is discussed in Chapter 1 and the transpiration section (i.e., Section 4.10).

SA1-269 Comment noted.

SA1-270 Comment noted.

SA1-271 Information on traffic has been updated.

SA1-272 This information has been included.

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**Pipeline Building/Trenching and Depth**

DEIS page 4-846 indicates that open cutting of the roadway would be done with an effort to retain at least one lane of traffic; however, complete closure of the road may be necessary. ODOT generally does not allow Interstate highways, or any state highway, to be completely closed to accommodate a utility installation, including pipeline facilities. Also, freight mobility notification requirements would have to be met by the permit holder before the state highways could be closed or the size/weight of vehicles using the highway is restricted. The DEIS should disclose this information.

SA1-273

The proposed burial methods and pipeline depth information provided in the DEIS do not conform to ODOT's standard requirements, below. The second paragraph in DEIS Section 4.10.2.3 *Roads Crossed by the Pipeline* describes that Highway 66 would be crossed via "open cuts". All ODOT highways are required to be crossed via boring, directional drilling, or other tunneling techniques. Developers must work with ODOT Districts and receive approval prior to any digging activities on or along ODOT right-of-way.

SA1-274

ODOT requires the pipeline to be installed with a minimum of 10 feet of cover, below the lowest ditch bottom (for all Districts) where the pipeline would cross ODOT facilities, including Interstate facilities. This requirement conflicts with standard pipeline figures and information displayed in the DEIS. Additionally, depth information provided in the DEIS is inconsistent throughout the DEIS.

SA1-275

Additionally, the pipeline design team will need to submit calculations that insure that the pipe wall thickness, at all highway crossings, is increased so that bursting pressure meets or exceeds the "49 CFR PART 192, Class 3" standards, for a Potential Impact Radius (PIR) > 900 feet. Note that the DEIS Tables 4.13.9.1.1 and 4.13.9.1.2 should be modified to reflect this calculation.

SA1-276

**Utility Coordination**

Utility relocation requires approval and coordination with ODOT for any work in/across/under ODOT right-of-way if not otherwise included in permit requests. Specific utility relocation requests will be handled through the appropriate ODOT District office. Any permit issued by ODOT would be issued to the utility company that owns the utility line or facility, not to their contractor. If Pacific Connector is the utility owner, then the permit would be issued to them. The DEIS should disclose this information.

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- SA1-273 Pacific Connector would obtain all necessary permits from applicable county, state, or federal agencies responsible for public roads to be crossed. Typically, major roadways would be crossed by horizontal boring or HDD underneath the roadway so that there would be no disruption to traffic.
- SA1-274 Comment noted. Pacific Connector would obtain all necessary permits from ODOT for state highways to be crossed.
- SA1-275 Comment noted. Pacific Connector would design state highway crossings to meet ODOT requirements and obtain all necessary permits from ODOT for state highways to be crossed. The FEIS has been updated as appropriate to make this clear.
- SA1-276 This information has been included.
- SA1-277 Comment noted.

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**Water Resources, Oregon Department of (WRD)**

Jerry Sauter

[jerry.k.sauter@wrdd.state.or.us](mailto:jerry.k.sauter@wrdd.state.or.us)

503-986-0817

No.	Citation	Issue Identification	Recommended Resolution
1	Vol. 4, Section 4, page 4-384 Para 3 & 4 and Page 4-385 Para 1,2,3,4	This section speaks about Diverted Open-Cut Crossing and references Flume, or Dam and Pump crossing methods. This section fails to account for interference with and/or damage to an existing water right holder, or diversion structures that might be located in an area that water would be diverted from during use of these methods.	WRD recommends that the EIS disclose any stretches of streams where these methods are contemplated, and that FERC require the applicant to determine if water rights exist that would be impacted. FERC should require Water right holders that could be affected to be contacted to determine the best way to mitigate impacts.
2	Vol. 4 Section 4 Page 4-395 Para 3, Table 4.4.2.2-10, Page 4-396, 4-397 Para 2	Hydrostatic testing. This section speaks to the sources for obtaining water for hydrostatic testing, and that for any surface-water use proper authorization would be obtained from OWRD. Existing water rights for other than municipal use cannot be used because they are issued for a specific use in a specific location, possibly during a specific time.	The DEIS should be modified to reflect a FERC recommendation that water from any source other than a municipality requires authorization from WRD. A limited license is usually the best method to obtain temporary authorization. The applicant is advised to contact WRD well in advance of water need to determine best sources.
3	Vol. 4, Section 4 Page 4-397 Para 2	This section speaks to release of hydrostatic test water and the <i>Draft Hydrostatic Testing Plan</i> developed with input from several groups. This Department was not consulted on this draft plan. The document states, "Where possible, test water would be released within the same basin from which it is withdrawn". ORS 537.801(3) states "Therefore, the Legislative Assembly declares that the waters of the state may not be appropriated, stored or	FERC should require the Applicant to work closely with WRD to locate sources of water and apply for sufficient limited licenses to avoid out-of-basin diversions in order to sufficiently mitigate impacts of the proposed action to less than significant levels.

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- SA1-278 Water rights associated with stream crossings are listed in table 4.4.2.2-6. Most private landowners have not permitted the applicant to survey their land, therefore the actual crossing method and exact locations are not know at this time. This information on water rights and crossing methods would be updated once surveys and design are completed. The State will likely require site-specific crossing plan as part of their permitting process.
- SA1-279 This information has been added to the FEIS.
- SA1-280 As stated in section 1.5.1, the applicant must meet state permitting requirements, this includes WRD licensing requirements.

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		diverted for use outside the basin of origin except in the compliance with ORS 537.801 to 537.860, including, if applicable, the prior approval of the Legislative Assembly under ORS 537.810."		SA1-280 Cont'd
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**Oregon State Agency Comments  
Jordan Cove Energy and Pacific Connector Gas Pipeline Project  
Draft Environmental Impact Statement  
(Docket # CP13-483-000 and CP13-492-000)  
February 12, 2015**

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Appendix  
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**Oregon**

John A. Kitzhaber, MD, Governor

**Department of Environmental Quality**

Western Region Eugene Office  
165 East 7th Avenue, Suite 100  
Eugene, OR 97401  
(541) 686-7838  
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TTY 711

September 12, 2011

Randy Miller  
Pacific Connector Gas Pipeline, LP  
295 Chlpetta Way  
Salt Lake City, UT 84108

RE: Response to Pacific Connector's Thermal Analysis-ODEQ Concurrence Request  
U.S. Army Corps of Engineers permit numbers 2007-00855 and 2008-00592

Dear Randy,

The Oregon Department of Environmental Quality (DEQ) is processing the Jordan Cove/Pacific Connector joint permit application for a §401 water quality certification through issuance of the U.S. Army Corps of Engineers (USACE) public notice in 2009. We requested additional information about the project in March 2010 and have received your responses in several reports over the past year. One outstanding issue is evaluating thermal impacts from the removal of vegetation for the construction of the pipeline.

ODEQ has been working with GeoEngineers for several months to determine thermal impacts to waterbodies. We appreciate GeoEngineer's memo outlining their thermal modeling efforts and seeking guidance on policy issues. The policy issues include 1) our determination of Pacific Connector as a nonpoint source for thermal loading, 2) use of shade as surrogate for thermal loading, 3) quantify thermal impacts using DEQ's *shade-a-lator model*, 4) development of source-specific implementation plan, and 5) availability of human use allowance.

**Pacific Connector Designated as a Nonpoint Source**

Oregon Administrative Rules (OAR) 340-042-0030(7) defines a "Source" as any process, practice, activity or resulting condition that causes or may cause pollution or the introduction of pollutants to a waterbody. As a source, responsible entities are required to develop a Source-Specific Implementation Plan. The required elements of an implementation plan are described in OAR 340-042-0080 (1-4). The plan should identify sensitive areas and incorporate low impact management approaches for maintenance and construction activities.

As a Source, with a Source Specific Implementation Plan, ODEQ can include the pipeline corridor in existing NPS thermal load allocations. Adding Pacific Connector as a new NPS to an existing Total Maximum Daily Load (TMDL) and Water Quality Management Plan (WQMP) will require a public notice and public comment period relating only to the addition of the source.

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When a TMDL is revised in this manner it must be submitted to the Environmental Protection Agency (EPA) for their review.

Where TMDL thermal load allocations have not yet been established, ODEQ's 401 Water Quality Certification will require the development of a Water Protection Plan, consistent with a Source Specific Implementation Plan, and a mitigation plan to address project impacts on thermal loading. When TMDLs are completed Pacific Connector will be identified as a NPS.

#### Effective Shade as a Surrogate

When a TMDL establishes a correlation between surrogate measures and a pollutant, Oregon Administrative Rules allow ODEQ to use surrogate measures to estimate allocations for the pollutant. ODEQ may use one or more surrogate measures for a pollutant that is difficult to measure or highly variable. A surrogate measure is closely related to the pollutant, and may be easier to monitor and track. Nonpoint source (NPS) temperature load allocations use effective shade as a surrogate measure and are protective year-round. TMDL effective shade curves identify site potential shading based upon stream geometry and mature site potential vegetative features and translate NPS solar radiation loads into measurable stream side vegetation targets.

Because near stream vegetation is identified as the primary influence on stream shading, TMDL effective shade curves assume that topographical shade is a secondary influence. Topographical shade is held at zero and as such is not integrated into ODEQ effective shade curves. These effective shade curves represent flat-plane shading targets. ODEQ utilizes the tool "shade-a-lator" to develop effective shade targets. (Information about the tool is found at the following link: <http://www.deq.state.or.us/wq/trading/trading.htm#Too>.)

ODEQ wants Pacific Connector to apply shade as a surrogate to temperature and identify near term and long term impacts to shade and subsequently thermal loading. For your results to be directly comparable to TMDL shade curves the assessment approach must parallel the approach taken by ODEQ. If you wish to incorporate topographical shade features you will need to develop new effective shade values for each reach that will be impacted by the project. All of the raw data utilized to conduct the thermal loading assessment, inclusive of all data fields required for the use of shade-a-lator, should be provided to ODEQ for verification.

Predictive Modeling: ODEQ temperature TMDLs incorporate Heat Source predictive modeling to determine the natural thermal potential (NTP) of a waterbody. The NTP is utilized to derive point source waste load allocations and to support water quality standards attainment analyses. The spatial extent of Heat Source modeling is limited by available information and DEQ resources. Where predictive modeling is conducted, topographical shade is incorporated. The extent of predictive modeling for the Rogue, Umpqua, and Klamath Basin TMDLs is clearly described in the TMDL documentation and focuses on larger order stream segments. It is our understanding that the pipeline corridor will impact a significant number of small order stream crossing not included as part of ODEQ Heat Source modeling efforts. (Information about TMDLs is at the following link: <http://www.deq.state.or.us/WQ/TMDLs/basinlist.htm>.)



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**Agricultural Lands:** As TMDLs are developed and implemented through time, the Department will continue to work with the Oregon Department of Agriculture (ODA) to integrate shade targets and show progress toward meeting these targets. This is an iterative process and area specific water quality management plans and rules are reviewed by ODA for their adequacy every two years. Recent clarifications of legal requirements relating to Coastal Zone Act Reauthorization Amendments (CZARA) require the Department to work closely with ODA to assure that implementation efforts on agricultural lands will meet TMDL shade targets. Your project shade assessment should remain consistent throughout the landscape.

**Canals and Ditches:** PGCP should determine which crossings occur in irrigation systems (canals and ditches) which return flows to stream systems. Where return flows exist effective shade targets have been assigned. Crossings located in areas where irrigation systems do not return water to streams in any season can be eliminated from the shading assessment. It is highly recommended that you work with area specific Basin Coordinators to achieve agreement on which crossings can be eliminated from shade assessments.

**Ephemeral Streams:** TMDLs apply to all intermittent and perennial streams. TMDLs do not apply to ephemeral waterbodies. The USGS defines these stream types as:

- Perennial – a stream which flows continuously,
- Intermittent or seasonal – a stream which flows only at certain times of the year when it receives water from springs or from some surface source such as melting snow in mountainous areas, and
- Ephemeral – a drainage in which water flows only in direct response to precipitation, and whose channel is at all times above the water table.

**Site Potential Vegetation:** During TMDL development ODEQ consults local experts, examines the composition and state of remnant stands, consults Environmental Protection Agency (EPA) Level IV Ecoregion vegetative communities, and characterizes channel conditions to determine site potential vegetative communities. Characteristics of local remnant stands and current channel conditions are often utilized to refine the application of EPA Ecoregion Information.

OAR 340-42-0050 defines the public participation process. ODEQ designates a Local Advisory Group (LAG) with experience and interest in a specific watershed or sub-basin to provide input during TMDL development. ODEQ incorporates LAG input when determining site potential vegetative characteristics. Because of these factors, the approach taken to determine site potential vegetative communities varies within each TMDL throughout the state.

**ODEQ Thermal Load Evaluation Requirements**

- Pacific Connector should apply effective shade as a temperature surrogate and identify near term and long term impacts to effective shade.
- Pacific Connector should develop a shade impact assessment and mitigation strategy based on estimated shade reductions resulting from construction impacts and

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the loss of future effective shade resulting from ongoing vegetation management within the pipeline right-of-way. Use of the *shade-a-lator* tool, assuming fully clear sky conditions on August 1, will facilitate the determination of project impacts on TMDLs effective shade targets.

- Grouping or stratification of stream crossings based upon similar channel widths, aspect, and/or vegetative communities may help expedite this evaluation. If crossings are grouped Pacific Connector should clearly articulate the reasoning behind the grouping method.
- Pacific Connector should present crossing assessment information in the context of tiered HUCs (7<sup>th</sup>, 6<sup>th</sup>, 5<sup>th</sup>, and 4<sup>th</sup>) so that cumulative impacts can be assessed.
- ODEQ strongly suggests that the thermal loading assessment and mitigation plan be presented in draft for concurrence prior to finalizing the thermal impacts assessment, identification of sensitive areas, and the mitigation plan.

ODEQ will review your findings to determine: 1) the magnitude of impacts at each crossing, 2) crossings where significant thermal impacts may occur, 3) locations where more detailed assessments would be useful, and 4) the sufficiency of proposed mitigation.

#### Source-specific Implementation Plan

Pacific Connector will be required to develop a Source-Specific Implementation Plan in part detailing proposed mitigation of increased thermal load. The Source-Specific Implementation Plan is a requirement under OAR 340-042-0030 and 0080. For waterbodies without approved TMDLs, the 401 WQ Certification will include the requirement for a Source-Specific Implementation Plan, until a TMDL is approved. This Implementation Plan is subject to approval by ODEQ.

Increased thermal load mitigation requirements include:

- On site replanting of site potential vegetation in areas impacted by construction that lie outside of the pipeline right of way,
- Off site planting of site potential vegetation to mitigate increased thermal loading for areas impacted by construction that lie outside of the pipeline right of way at a ratio of 1:1, and
- Off site planting of site potential vegetation to mitigate increased thermal loading at a 2:1 ratio for the managed pipeline right of way.

ODEQ Basin Coordinators may be able to provide information regarding high value thermal mitigation locations. Mitigation site conditions must be monitored closely to assure the successful establishment of mature site potential vegetation through time.

#### Reserve Capacity/Human Use Allocations (HUA)

ODEQ apportions heat allocations to the equivalent of 0.30°C cumulative HUA. Significant variability in how the HUA is partitioned exists between basins because it is partitioned in a way that addresses activities and conditions specific to the basin. Allocations and surrogate effective shade targets are assigned to sources or groups of sources.

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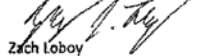
TMDLs often identify an explicit allocation for reserve capacity. Reserve capacity allocations are set aside for future growth and new, expanded, or unidentified sources. Rigorous analyses are required to support the assignment of reserve capacity and changes made to pollutant allocations will require a public notice and public comment period relating to the addition of the source and the proposed allocation of reserve capacity. If a TMDL is revised in this manner it must be submitted to the Environmental Protection Agency (EPA) for review and approval.

The use of reserve capacity is guided in each TMDL. For more detailed information about reserve capacity allocation please reference basin specific TMDLs and contact the ODEQ Basin Coordinator for the area.

ODEQ plans to review TMDLs as needed to include new sources or Designated Management Agencies (DMAs). ODEQ does not plan to recalculate TMDL loading capacity and allocations until it is determined that significant progress has been made toward attaining water quality standards and/or surrogate measures. ODEQ would also consider reevaluating TMDL loading capacity and allocations, subject to available resources, should new information become available indicating that the TMDL or its associated surrogates should be modified.

We appreciate your efforts to quantify potential thermal impacts associated with construction and maintenance of your pipeline. If you have questions about our response, please contact our project coordinator, Mary Camarata by email at [camarata.mary@deq.state.or.us](mailto:camarata.mary@deq.state.or.us) or by phone at 541-687-7435.

Sincerely,



Zach Loboy  
TMDL Manager

cc: Jon Ambrose, and Anne McDonald/GeoEngineers, 15055 SW Sequola Parkway, Suite 140, Portland, OR 97224

ec: Gene Foster, Dave Belyea, Chris Stine, Pam Blake, Bill Meyers, Steve Kirk, Dan Turner, and Mary Camarata/DEQ

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## Appendix ODFW

### Appendix A: ODFW Recommended Mitigation Actions: Coos, Coquille, Umpqua, Rogue and Klamath Watersheds

Table 1. Examples of projects with high to moderate ecological benefit for aquatic fish and wildlife resources.

Ecologically Beneficial Aquatic Related Projects Noted in DEIS	Ecologically Beneficial Upland Related Projects Noted in DEIS
Riparian planting; riparian enhancement; riparian easements; etc.	Relocation of matrix to LSR
Fish Passage Improvements	Noxious weed treatments
Large Wood instream	Road Closures
Relocation of matrix to LSR	Riparian planting; riparian enhancement; riparian easements; etc.
Road decommissioning	Snag creation
Stream crossing repair	Riparian Vegetation Management (thinning/Stack and burn)
Road storm-proofing	Pre-commercial thinning designed to improve mature forest conditions
Road Surfacing	Upland LWD placement
Road Closures	Pre-commercial thinning designed to improve mature forest conditions
Riparian Vegetation Management (thinning/Stack and burn)	Planting for Mardon Skipper

SA1-281

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The proposed mitigation measures have been forwarded to the applicant for consideration in their Habitat Mitigation Plan, and to the BLM and Forest Service for consideration in their respective mitigation plans.

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List 1. Potential projects to mitigate for aquatic resource impacts and sites in the Rogue River basin.

**Streams crossed by pipeline**

**Little Butte Creek**

1. Top RBFAT passage sites: Charlie; Bieberstad; Walcot; LBID site; Brown Ditch; Tucker Ditch; LBMD, others
2. Funding for water leases with willing landowners
3. Fund replacement of county culvert on Bitterlick Creek
4. Riparian project on Eagle Point urban tributaries, especially the golf course near the visitor center

**NF Little Butte Creek**

1. Top RBFAT passage sites: Hanley; MID NFLB, others
2. Funding for water leases with willing landowners
3. Find and implement riparian projects

**SF Little Butte Creek**

1. Top passage sites: MID SFLB; Hoeft Ditch; Klinge Meyers; Ragsdale; Tonn Ditch; Burrell Ditch; Omega, others
2. Funding for water leases with willing landowners
3. Find and implement riparian projects
4. Bank stabilization, fencing, planting on West/Hodgkin properties

**Salt Creek**

1. Passage at C2 Cattle Ranch diversion, coho found higher in the system
2. Culvert replacement on tributaries.

**Indian Creek**

1. Find and implement passage projects
2. Funding for water leases with willing landowners
3. Find and implement riparian projects
4. Implement large wood projects on BLM land
5. Implement outreach at Aunt Caroline's Park in Shady Cove

**WF Trail Creek**

1. Culvert replacement on West Fork and trib of West Fork at mill property
2. Culvert replacement on Buck Rock Creek (ODOT).
3. Culvert replacement on X trib near confluence of Trail Creek and Rogue.
4. Funding for water leases with willing landowners
5. Large wood projects on BLM land on West Fork Trail
6. Additional engineered wood structure on private land on West Fork Trail

**High priority summer steelhead streams (tribs of pipeline streams)**

**Lost Creek**

1. Riparian fencing and planting project on ranch property
2. Riparian projects on other private above ranch
3. Large wood project on ranch property

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**Lake Creek**

1. Riparian fencing and planting project on ranch property
2. Find and implement passage projects where applicable

**Antelope Creek**

1. Restoration on ODOT property at confluence with Little Butte Creek???
2. Find and implement passage projects
3. Funding for water leases with willing landowners
4. Find and implement riparian projects

**Other streams with high potential for restoration**

**Big Butte Creek**

1. Funding for water leases with willing landowners

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Cont'd

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Table 2. Aquatic restoration/mitigation potential projects in the Rogue River basin.

Admin Unit	Fifth Field	Mitigation Group	Project Name	Quantity	Unit	Rationale
Medford BLM	Trail Creek	Aquatic and Riparian	Trail Creek Instream LWD	2.6	miles	Lack of large wood and recruitment of LWD into streams is a consistent factor limiting aquatic habitat quality in all watersheds crossed by Pacific Connector.
Medford BLM	Trail Creek	Road Surfacing	Road sediment reduction	16.3	miles	Road surfacing helps reduce sedimentation.
Medford BLM	Trail Creek	Road storm proofing	Road sediment reduction	4.3	miles	Storm-proofing restores hydraulic connectivity and reduces sediment.
Forest Service	Trail Creek	Road storm proofing	Road sediment reduction	0.6	miles	Storm-proofing restores hydraulic connectivity and reduces sediment.
Forest Service	Trail Creek	Rd decommissioning	Road sediment reduction	1.1	miles	Reduces sedimentation and restores hydraulic connectivity.
Medford BLM	Trail Creek	Rd decommissioning	Road sediment reduction	2.7	miles	Reduces sedimentation and restores hydraulic connectivity.
Medford BLM	Shady Cove-RR	Aquatic and Riparian	LWD	2.5	miles	Lack of large wood and recruitment of LWD into streams is a consistent factor limiting aquatic habitat quality in all watersheds crossed by Pacific Connector.
Medford BLM	Shady Cove-RR	Road sediment reduction	Road sediment reduction	1	miles	Improve existing roads.
Medford BLM	Shady Cove-RR	Road re surface	Road sediment reduction	1.5	miles	Improve existing roads.
Medford BLM	Big Butte	Road Surfacing	Road sediment reduction	6.4	miles	Reduces sedimentation and restores hydraulic connectivity.
Medford BLM	Little Butte	reduction	reduction	9	miles	Resurface roads in the Ashland RA
Medford BLM	Little Butte	Road sediment reduction	Road sediment reduction	9.4	miles	Resurface roads in the Butte Falls RA
Forest Service	Little Butte	Aquatic and Riparian	5 Fk Little Butte LWD	1.5	miles	Placing 75 pieces of LWD into the South Fork by helicopter.

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Cont'd

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Admin Unit	Fifth Field	Mitigation Group	Project Name	Quantity	Unit	Rationale
Forest Service	Little Butte	Road sediment reduction	Road decommissioning	53.2	miles	Remove roads and re plant.
Medford BLM	Little butte	Aquatic and Riparian	Little Butte Cr Fish Screen	1	site	Screen Lost Creek diversion and build permanent diversion structure. Lack of large wood and recruitment of LWD into streams is a consistent factor limiting aquatic habitat quality in all watersheds crossed by Pacific Connector.
Medford BLM	Little butte	Aquatic and Riparian	Lost Creek Instream LWD	8.6	miles	
Medford BLM	Little butte	Road sediment reduction	Little Butte Cr road imprv.	3.5	miles	Improve existing roads by restoring surface.
Medford BLM	Little butte	Road sediment reduction	Little Butte Cr rd decom.	10.6	miles	Remove roads to decrease sediment input in the Ashland RA.
Medford BLM	Little butte	Road sediment reduction	Little Butte Cr rd decom.	2.4	miles	Remove roads to decrease sediment input in the Butte Falls RA.
Forest Service	Little Butte	Aquatic and Riparian	Stream crossing decom.	32	sites	Restoring stream crossings reconnects aquatic habitats. Restoration includes riparian plantings to offset impact of shade removal at pipeline X's.

List does not include terrestrial habitat improvements, fire suppression, or stand density fuel break mitigation on federal land. These actions are for offsite mitigation only. On site mitigation includes placement of LWD at crossings etc.

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List 2. Information for properties with potential for mitigation related to aquatic resources.

Dodes Cr Road Elk Creek subbasin

[http://www.landandfarm.com/property/175.1 Acres in Jackson County Oregon-1473980/](http://www.landandfarm.com/property/175.1%20Acres%20in%20Jackson%20County%20Oregon-1473980/)

Kane Cr

[http://www.landandfarm.com/property/517.56 Acres in Jackson County Oregon-1473891/](http://www.landandfarm.com/property/517.56%20Acres%20in%20Jackson%20County%20Oregon-1473891/)

Antelope Creek—Antelope Creek Conservation Opportunity Area

[http://www.landandfarm.com/property/58 Acres in Jackson County Oregon-1471319/](http://www.landandfarm.com/property/58%20Acres%20in%20Jackson%20County%20Oregon-1471319/)

Modoc Road with vernal pool—North Medford Conservation Opportunity Area

[http://www.landandfarm.com/property/212.67 Acres in Jackson County Oregon-1298398/](http://www.landandfarm.com/property/212.67%20Acres%20in%20Jackson%20County%20Oregon-1298398/)

Evans Creek—1.5 miles of creek frontage

[http://www.landandfarm.com/property/Rural Residential See Remarks Rogue River OR-1365916/](http://www.landandfarm.com/property/Rural%20Residential%20See%20Remarks%20Rogue%20River%20OR-1365916/)



Indian Creek/Crowfoot Creek—Shady Cove Foothills Conservation opportunity Area

This isolated acreage is surrounded by Federal BLM land and is located in the heart of a well-known elk hunting area. The topography is graced with peaks and valleys that are permeated with logging roads and skid trails throughout. The headwaters of both Indian Creek and Crowfoot Creek originate on the parcel. The average elevation is 2500' MSL and the site index provides a mixture of merchantable timber, oak groves and open rock faces. Timber inventory data reveals a mixture of timber types and volumes. This property is uniquely located between Lost Creek Lake, the Rogue River, Big Butte Creek and the town of Shady Cove and is made up of three separate but contiguous tax lots

[http://www.landandfarm.com/property/480 Acres in Jackson County Oregon-1674024/](http://www.landandfarm.com/property/480%20Acres%20in%20Jackson%20County%20Oregon-1674024/)

Headwaters of Dead Indian Creek

This idyllic parcel is comprised of one square mile of gently undulating wilderness terrain and is endowed with over a mile of frontage of the headwaters of Dead Indian Creek, a major tributary of the South Fork of Little Butte Creek. The property lays just 1/2 mile from a paved county road and yet is completely surrounded by and easily accessed through BLM land on all sides. It's adjacent to the popular Buck Prairie recreational trail system, a winter haven for snowmobiling and cross country skiing enthusiasts, and a summer hiking and hunting mecca. It's just 5 miles to the boat launch at Howard Prairie Lake Recreation Area, a major local fishing, sailing and boating attraction.

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Oregon State Agency Consolidated Comments:

Appendix

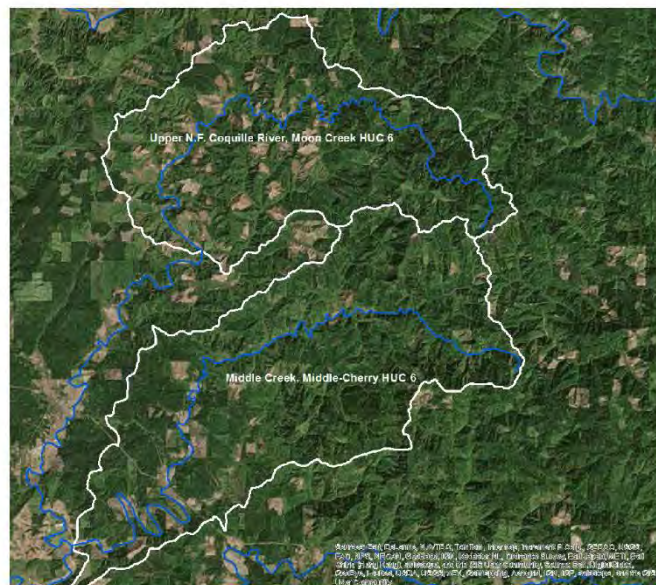
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There is plenty of merchantable and sub-merchantable timber growing on the property making this a legitimate and sustainable legacy investment opportunity. The property rests at about 5000' elevation.  
[http://www.landandfarm.com/property/648\\_Acres\\_in\\_Jackson\\_County\\_Oregon-1380787/](http://www.landandfarm.com/property/648_Acres_in_Jackson_County_Oregon-1380787/)



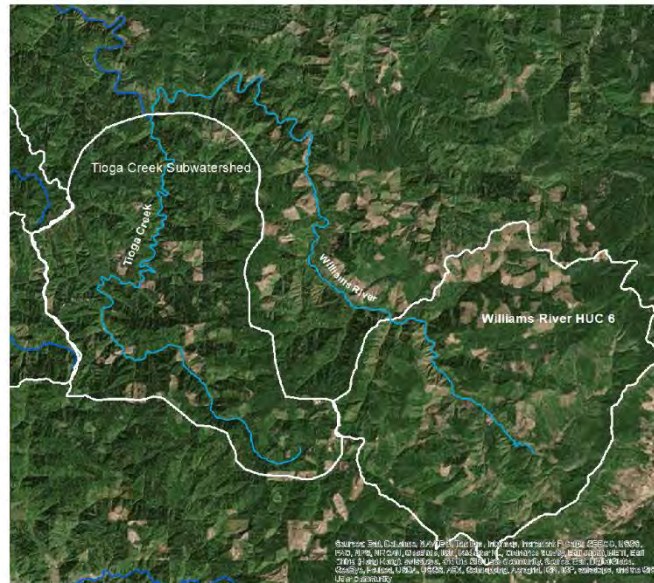
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Figure 1. Subwatersheds in the Coquille River Basin with high potential for benefits to wildlife habitat, water quality and fisheries resources through: 1. older age timber management (80-120yrs.); 2. Road decommissioning; 3. High Landslide Hazard Location stand easements establishment; 4. Riparian corridor easements/purchase.

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Figure 2. Subwatersheds in the Coos River Basin with high potential for benefits to wildlife habitat, water quality and fisheries resources through: 1. older age timber management (80-120yrs.); 2. Road decommissioning; 3. High Landslide Hazard Location stand easements establishment; 4. Riparian corridor easements/purchase.

**SA1**

Zone of High Wetland Restoration Potential

City of Coquille

Coquille River

Source: Bill C. Carter, 7/20/00, 10/2/01, 11/2/01, 11/2/02, 11/2/03, 11/2/04, 11/2/05, 11/2/06, 11/2/07, 11/2/08, 11/2/09, 11/2/10, 11/2/11, 11/2/12, 11/2/13, 11/2/14, 11/2/15, 11/2/16, 11/2/17, 11/2/18, 11/2/19, 11/2/20, 11/2/21, 11/2/22, 11/2/23, 11/2/24, 11/2/25, 11/2/26, 11/2/27, 11/2/28, 11/2/29, 11/2/30, 11/2/31, 11/2/32, 11/2/33, 11/2/34, 11/2/35, 11/2/36, 11/2/37, 11/2/38, 11/2/39, 11/2/40, 11/2/41, 11/2/42, 11/2/43, 11/2/44, 11/2/45, 11/2/46, 11/2/47, 11/2/48, 11/2/49, 11/2/50, 11/2/51, 11/2/52, 11/2/53, 11/2/54, 11/2/55, 11/2/56, 11/2/57, 11/2/58, 11/2/59, 11/2/60, 11/2/61, 11/2/62, 11/2/63, 11/2/64, 11/2/65, 11/2/66, 11/2/67, 11/2/68, 11/2/69, 11/2/70, 11/2/71, 11/2/72, 11/2/73, 11/2/74, 11/2/75, 11/2/76, 11/2/77, 11/2/78, 11/2/79, 11/2/80, 11/2/81, 11/2/82, 11/2/83, 11/2/84, 11/2/85, 11/2/86, 11/2/87, 11/2/88, 11/2/89, 11/2/90, 11/2/91, 11/2/92, 11/2/93, 11/2/94, 11/2/95, 11/2/96, 11/2/97, 11/2/98, 11/2/99, 11/2/100, 11/2/101, 11/2/102, 11/2/103, 11/2/104, 11/2/105, 11/2/106, 11/2/107, 11/2/108, 11/2/109, 11/2/110, 11/2/111, 11/2/112, 11/2/113, 11/2/114, 11/2/115, 11/2/116, 11/2/117, 11/2/118, 11/2/119, 11/2/120, 11/2/121, 11/2/122, 11/2/123, 11/2/124, 11/2/125, 11/2/126, 11/2/127, 11/2/128, 11/2/129, 11/2/130, 11/2/131, 11/2/132, 11/2/133, 11/2/134, 11/2/135, 11/2/136, 11/2/137, 11/2/138, 11/2/139, 11/2/140, 11/2/141, 11/2/142, 11/2/143, 11/2/144, 11/2/145, 11/2/146, 11/2/147, 11/2/148, 11/2/149, 11/2/150, 11/2/151, 11/2/152, 11/2/153, 11/2/154, 11/2/155, 11/2/156, 11/2/157, 11/2/158, 11/2/159, 11/2/160, 11/2/161, 11/2/162, 11/2/163, 11/2/164, 11/2/165, 11/2/166, 11/2/167, 11/2/168, 11/2/169, 11/2/170, 11/2/171, 11/2/172, 11/2/173, 11/2/174, 11/2/175, 11/2/176, 11/2/177, 11/2/178, 11/2/179, 11/2/180, 11/2/181, 11/2/182, 11/2/183, 11/2/184, 11/2/185, 11/2/186, 11/2/187, 11/2/188, 11/2/189, 11/2/190, 11/2/191, 11/2/192, 11/2/193, 11/2/194, 11/2/195, 11/2/196, 11/2/197, 11/2/198, 11/2/199, 11/2/200, 11/2/201, 11/2/202, 11/2/203, 11/2/204, 11/2/205, 11/2/206, 11/2/207, 11/2/208, 11/2/209, 11/2/210, 11/2/211, 11/2/212, 11/2/213, 11/2/214, 11/2/215, 11/2/216, 11/2/217, 11/2/218, 11/2/219, 11/2/220, 11/2/221, 11/2/222, 11/2/223, 11/2/224, 11/2/225, 11/2/226, 11/2/227, 11/2/228, 11/2/229, 11/2/230, 11/2/231, 11/2/232, 11/2/233, 11/2/234, 11/2/235, 11/2/236, 11/2/237, 11/2/238, 11/2/239, 11/2/240, 11/2/241, 11/2/242, 11/2/243, 11/2/244, 11/2/245, 11/2/246, 11/2/247, 11/2/248, 11/2/249, 11/2/250, 11/2/251, 11/2/252, 11/2/253, 11/2/254, 11/2/255, 11/2/256, 11/2/257, 11/2/258, 11/2/259, 11/2/260, 11/2/261, 11/2/262, 11/2/263, 11/2/264, 11/2/265, 11/2/266, 11/2/267, 11/2/268, 11/2/269, 11/2/270, 11/2/271, 11/2/272, 11/2/273, 11/2/274, 11/2/275, 11/2/276, 11/2/277, 11/2/278, 11/2/279, 11/2/280, 11/2/281, 11/2/282, 11/2/283, 11/2/284, 11/2/285, 11/2/286, 11/2/287, 11/2/288, 11/2/289, 11/2/290, 11/2/291, 11/2/292, 11/2/293, 11/2/294, 11/2/295, 11/2/296, 11/2/297, 11/2/298, 11/2/299, 11/2/300, 11/2/301, 11/2/302, 11/2/303, 11/2/304, 11/2/305, 11/2/306, 11/2/307, 11/2/308, 11/2/309, 11/2/310, 11/2/311, 11/2/312, 11/2/313, 11/2/314, 11/2/315, 11/2/316, 11/2/317, 11/2/318, 11/2/319, 11/2/320, 11/2/321, 11/2/322, 11/2/323, 11/2/324, 11/2/325, 11/2/326, 11/2/327, 11/2/328, 11/2/329, 11/2/330, 11/2/331, 11/2/332, 11/2/333, 11/2/334, 11/2/335, 11/2/336, 11/2/337, 11/2/338, 11/2/339, 11/2/340, 11/2/341, 11/2/342, 11/2/343, 11/2/344, 11/2/345, 11/2/346, 11/2/347, 11/2/348, 11/2/349, 11/2/350, 11/2/351, 11/2/352, 11/2/353, 11/2/354, 11/2/355, 11/2/356, 11/2/357, 11/2/358, 11/2/359, 11/2/360, 11/2/361, 11/2/362, 11/2/363, 11/2/364, 11/2/365, 11/2/366, 11/2/367, 11/2/368, 11/2/369, 11/2/370, 11/2/371, 11/2/372, 11/2/373, 11/2/374, 11/2/375, 11/2/376, 11/2/377, 11/2/378, 11/2/379, 11/2/380, 11/2/381, 11/2/382, 11/2/383, 11/2/384, 11/2/385, 11/2/386, 11/2/387, 11/2/388, 11/2/389, 11/2/390, 11/2/391, 11/2/392, 11/2/393, 11/2/394, 11/2/395, 11/2/396, 11/2/397, 11/2/398, 11/2/399, 11/2/400, 11/2/401, 11/2/402, 11/2/403, 11/2/404, 11/2/405, 11/2/406, 1

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Table 3. Types of mitigation projects that could be conducted on purchased mitigation lands in Jackson County

Wedgeleaf Ceanothus brush clearing
Oak stand thinning
Removal of small diameter conifers from oak stands
Controlled burns
Travel management patrols
Repair of ground degraded by
Restoration of hardwood component in stands with history of conifer management
Noxious weed control
Placement of LWD in upland areas

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Figure 4. Mitigation sites in Jackson County in relation to the PCGP proposed route.

SA1

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Table 4. Upland locations for proposed mitigation in Jackson County.

Property Block by TMA Unit	ROW D Prior- ity	Map No.	EEOOWNER	INCAREOF FOREST	CITY	ST	ACREAGE	TMA MAPLOT	SITEADD	VEG_NAME
Boswell Mtn.	1	8	MERIWETHER SOUTHERN OR	CAPITAL PARTNERS FOREST	INDEPENDENCE	OR	108.35	34-2W-16- 500	EAST EVANS CR RD	Siskiyou-Sierra mixed conifer forest
Boswell Mtn.	2	1	MERIWETHER SOUTHERN OR	CAPITAL PARTNERS FOREST	INDEPENDENCE	OR	123.21	34-2W-16- 900	EAST EVANS CR RD	Siskiyou-Sierra mixed conifer forest
Camel Hump B	3	4	MERIWETHER SOUTHERN OR	FOREST Mgmt. HANCOCK	VANCOUVER	WA	320	34-1E-1600	CROWFOOT RD	Siskiyou-Sierra mixed conifer forest
Camel Hump B	4	5	MERIWETHER SOUTHERN OR	FOREST Mgmt. HANCOCK	VANCOUVER	WA	80	34-1E-1500	CROWFOOT RD	Siskiyou-Sierra mixed conifer forest
Camel Hump B	5	3	MERIWETHER SOUTHERN OR	FOREST Mgmt.	VANCOUVER	WA	80	34-1E-1400	CROWFOOT RD	Siskiyou-Sierra mixed conifer forest
Camel Hump A	6	0	PLUM CREEK TIMBERLANDS LP		SEATTLE	WA	160.24	34-1E-10-500	CROWFOOT RD	Siskiyou-Sierra mixed conifer forest
Camel Hump A	6	0	PLUM CREEK TIMBERLANDS LP		SEATTLE	WA	160.24	34-1E-10-500	CROWFOOT RD	Siskiyou mixed evergreen forest
Oberchain B	7	7	MERIWETHER SOUTHERN OR	HANCOCK FOREST Mgmt.	VANCOUVER	WA	320	35-1E-5200	OBERCHAIN RD	Siskiyou-Sierra mixed conifer forest
Oberchain A	8	2	PLUM CREEK TIMBERLANDS LP		SEATTLE	WA	40	35-1E-6700	WORTHINGTON RD	Siskiyou-Sierra mixed conifer forest
Oberchain A	9	6	PLUM CREEK TIMBERLANDS LP		SEATTLE	WA	240	35-1E-6800	WORTHINGTON RD	Siskiyou-Sierra mixed conifer forest

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Origin: State Agency Consolidated Comments

Appendix

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List 4. Information from ODA Noxious Weed Program identifying noxious weed issue locations.

**Potential Noxious Weed Sites for Mitigation  
Due to Proposed Pipeline Installation**

*Locations submitted by Oregon Department of Agriculture's Noxious Weed Program on December 22, 2014 (Carri Pirosko)*

**FUNDING FOR WEED ERADICATION ON LANDS OWNED BY ODA'S PRIVATE PARTNERS WOULD NEED TO BE COORDINATED THROUGH ODA TO PROTECT PRIVACY.**

**Potential Noxious Weed Sites for Mitigation due to Proposed Pipeline Installation (Jackson County)**

Garlic Mustard on the banks of the Rogue River from Kelly Slough down through the Wild and Scenic Section of the Rogue River  
Dyer's woad along the I-5 corridor from the California/Oregon border, up and over the Siskiyou Summit, and to Exits into Ashland  
Skeletonweed control along the I-5 corridor from the California/Oregon border to the Jackson/Josephine County line and into Douglas County.  
Japanese knotweed along the banks of tributaries feeding into the Rogue River throughout Jackson, Josephine Counties.  
Perennial pepper weed on the banks of Emigrant Lake.  
Eurasian watermilfoil in the marina and sections of  
Leafy spurge in the cities of Ashland and Medford.

**Potential Noxious Weed Sites for Mitigation due to Proposed Pipeline Installation (Douglas County)**

**Paterson's Curse**  
**Douglas County**

10599 Old Highway 99, Dillard  
3845 Roberts Mountain Road, Myrtle Creek

**Distaff thistle**  
**Douglas County**

**Happy Valley Area**  
3203 Happy Valley Road, Roseburg  
1200 Buell Lane, Roseburg  
518 Buell Lane, Roseburg  
520 Buell Lane, Roseburg

**Metz Hill/Green Valley Area**

331 Metz Hill Road, Oakland  
1600 Metz Hill Road, Oakland  
1601 Metz Hill Road, Oakland  
2945 Metz Hill Road, Oakland  
7888 Green Valley Road, Oakland  
7275 Green Valley Road, Oakland  
7279 Green Valley Road, Oakland

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791 Scott Road, Oakland

Glide Area

16909 North Bank Road, Roseburg  
16400 North Bank Road, Roseburg  
16988 North Bank Road, Roseburg  
297 Single Tree Lane, Roseburg  
2589 Sunshine Road, Roseburg  
LoneRock Timberland Co. Ranches, several properties in Glide area

Dixonville Area

17047 Dixonville Road, Roseburg  
15241, Dixonville Road, Roseburg  
2126 S. Deer Creek Road, Roseburg  
974 Brumbach Road, Roseburg

Myrtle Creek Area

3842 Roberts Mountain Road, Myrtle Creek  
3845 Roberts Mountain Road, Myrtle Creek  
4993 Clarks Branch Road, Roseburg

Umpqua Highway

10850 N. Umpqua Highway, Roseburg  
17271 N. Umpqua Highway, Roseburg  
10190 N. Umpqua Highway, Roseburg

Spurge laurel

Douglas County

Project location: (directions to the site)

I-5 South to exit 138/Oakland; I-5 South to Exit 136 turn left onto Central follow central to Waite St turn right follow Wait St down to stop sign turn right onto Southside Rd.

Project GPS, from heart of infestation:

Latitude: 24°45.01"N Longitude: 19°37.10"W - Spurge laurel

Japanese knotweed

Douglas County

Project location: (directions to the site)

Deer Creek: I-5 South to exit 124 turn right onto Harvard at light follow Harvard to Stephens follow Stephens to Diamond Lake BLVD turn right follow Diamond Lake BLVD out to Buckhorn RD. (Myrtle Cr.) I-5 South to exit 109 – N. Old Pacific HWY, turn left on N.W. 4<sup>th</sup> Ave turn right onto Division St. stay on Division St. until you come to the North Myrtle/ South Myrtle "Y" take a left –North Myrtle Rd.

Project GPS, from heart of infestation:

Latitude: 12°37.53"N Longitude: 15°41.58"W – Japanese knotweed

Portuguese broom

Douglas County

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Project location: (directions to the site)  
I-5 south Exit 159 on Anlauf Rd., to Cox Rd., then east to roads accessing the treatment area; or I-5 north  
exit 154, then west under freeway to Anlauf Rd., then north to Cox Rd.

Project GPS, from heart of infestation:  
Latitude: 38°18.72'N Longitude: 11°25.89'W Portuguese broom

Gorse  
Douglas County  
Gorse- Scattered sites around Douglas County; Map available upon request.

Project GPS, from heart of one infestation:  
Latitude: 23°48.94'N Longitude: 18°08.78'W Gorse

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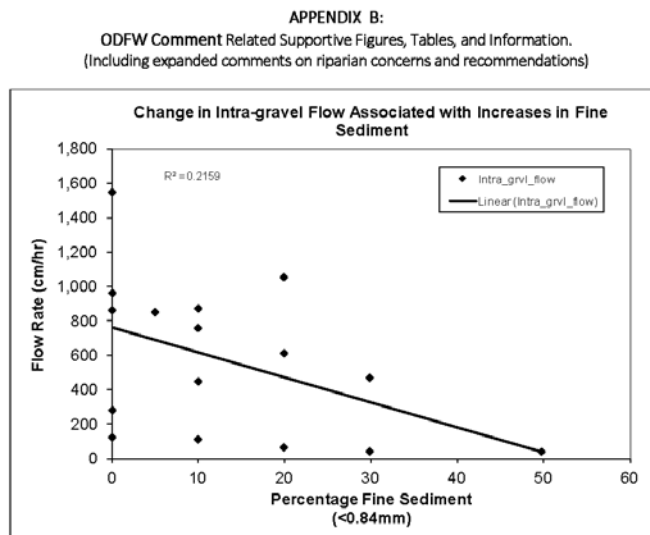


Figure 1. Change in intergravel flow of sediment (Reiser and White 1988).

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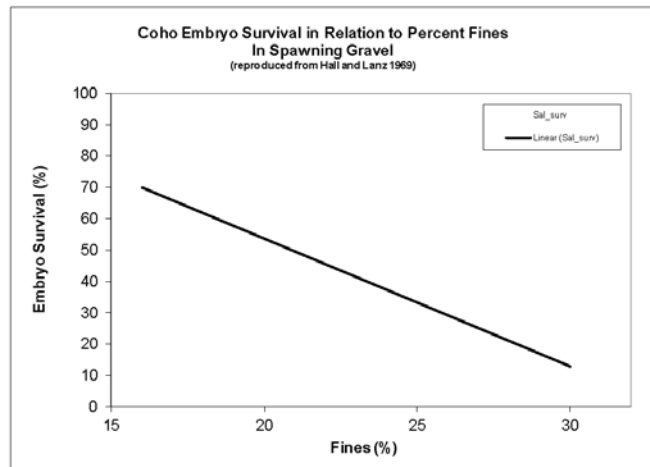


Figure 2. Coho embryo survival in relation to gravel embeddedness from Hall and Lanz 1969.

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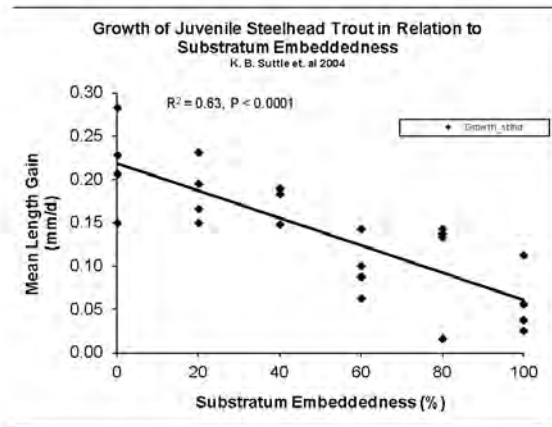


Figure 3. Growth of juvenile steelhead trout in relation to substrate embeddedness Suttle et. al 2004.

Table 2. Mean Monthly Flows 12/1/1905-9/30/2008 at Brockway Gauge (South Umpqua RM 138.7).  
Mean, Minimum, and Maximum Flows in cfs, Sums in cfs-days

Month	# Values	Mean	Minimum	Maximum	Sum	Std Dev
1	77	8044	362	16000	534702.88	4215
2	77	6158	341	15400	473388.22	3558
3	77	4671	322	10800	358663.77	2354
4	77	3221	559	7300	247861.40	1467
5	77	1986	446	6910	153663.77	1184
6	77	881	142	3310	67836.37	546
7	76	765	50	576	20151.45	120
8	76	124	40	342	10156.86	65.0
9	76	145	30	587	11121.86	82.1
10	75	448	103	6040	33581.40	736
11	75	2368	190	13000	192443.17	1477
12	76	5620	184	20000	431669.90	4500

Source: Oregon Water Resources Department Flow Data

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SA1

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SA1-282

The proposed mitigation measures have been forwarded to the applicant for consideration in their Habitat Mitigation Plan, and to the BLM and Forest Service for consideration in their respective mitigation plans.

Table 3. Mean Monthly Flows 10/1/1910-9/30/2008 at Tiller (South Umpqua RM 187). Mean, Minimum and Maximum Flows in cfs, Sums in cfs days

Month	# Values	Mean	Minimum	Maximum	Sum	Std. Dev.
10	71	188	35	1,790	13,340.18	245
11	71	1009	48	3980	71,615.09	833
12	71	2038	67	7480	144,698.56	1,601
1	70	2,116	90	4,720	148,085.14	1,259
2	70	1,968	95	4,910	137,726.09	937
3	70	1,721	328	4,780	120,453.25	855
4	70	1,422	433	2,760	99,527.30	492
5	70	1,079	231	2,090	75,517.93	491
6	70	511	108	1,840	35,747.39	302
7	70	152	49	391	10,636.06	58.4
8	70	75.9	30	206	5,315.52	26.8
9	70	73.0	39	364	5,107.95	44.6

APPENDIX B (Cont.): Expansion of riparian discussion from Department comments on the ICEP/PCGP DEIS.

Chapt. 4.14 pgs. 150; 1026; 1030; 1033; 1034; 4.6; 4.7; 5.0 pg. 8; Table 4.4.2.2-11.1 pg. 389; Appendix F	<p><b>Riparian Habitat Impacts:</b> Riparian vegetation within the Riparian Management Area (RMA) zone near streams, wetlands, and waterways is critically important for the health of Oregon's native fish populations, especially in the drier parts of the pipeline corridor such as the Rogue and Klamath watersheds. Fish in the state are predominantly cold water species that evolved in stream conditions that were generally in moist forest related to climax or second growth hardwood and conifer forest, thus near maximum shade that the stand would produce.</p> <p>Oregon Dept. of Environmental Quality has identified 303d temperature listed streams including numerous streams through the pipeline route. These listings relate directly to removal of riparian vegetation since the 1800's. The department notes that PCGP staff</p>	<p><b>Riparian Habitat Impacts</b> The department recommends that riparian vegetation buffers that:</p> <ul style="list-style-type: none"> <li>RMA vegetation meet or exceed State and local government requirements be implemented on non-federal lands. All disturbed areas need to be replanted with native vegetation. The department recognizes that the proposed crossing locations may be on lands where private landowners may not allow the full setback to be replanted. In these situations, the department does not object if mitigation for permanent riparian impacts occurs off-site provided that it occurs within proximity within the same HUC 6 watershed and on private lands.</li> </ul> <p>(Note: The department recognizes recommendation in this section may not be possible, see section C). Riparian ordinances in Coos and Douglas counties have been defined as a 50ft. minimum setback. Where the pipeline is adjacent to a stream corridor, the department recommends that riparian hardwood native vegetation be replanted</p>
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	<p>have developed a water temperature model to evaluate the impacts of the project at specific stream crossings. Table 4.4.2.2-11 identifies through modeling efforts that some streams impacted by the PCGP will be cooler following removal of the riparian corridor, which is not scientifically logical.</p> <ul style="list-style-type: none"> <li>OC Coho salmon production across the pipeline route has been significantly deleteriously impacted by historical removal of vegetation from the RMA. Further impacts are considered as highly negative for this species as well as Fall Chinook Salmon, winter steelhead, and Coastal Cutthroat Trout.</li> <li>The DEIS identifies extensive measures on federal lands where RMA's are currently considered in "Good" condition to further improve these stands. These measures are noted by the department, but will fully fail to address damage to RMA's on private lands.</li> </ul> <p>The Department has repeatedly raised concerns over inadequacy of proposed riparian vegetation buffers for the PCGP on non-federal land. The proposed 25-foot replanting zones on private and state lands are not consistent with county or state requirements for riparian areas which may also vary depending on specific location within state and private forest lands. Agreed riparian buffers on federal land are 100 ft. minimum. For example, Douglas County Land</p>	<p>and allowed to regenerate from the OHW mark to a distance of 50ft. minimum upslope in the pipeline corridor. The Department recommends:</p> <ul style="list-style-type: none"> <li>Plants should include a minimum of at least 3 shrub species and 2 hardwood and 2 conifer tree species native to the location.</li> <li>Plants should be installed from bare root or preferred 1 gallon or 2 gallon stock from a genetic source within 60 air miles and 1000ft. of elevation of the site.</li> <li>Planting spacing should be 3ft. maximum and continue upslope.</li> <li><i>(Note: The department recognizes the need for the pipeline to maintain a maintenance corridor, accordingly the above recommendations in A. are likely not feasible. In section B the department has offered recommended mitigation options.</i></li> </ul> <p>In Jackson County, the riparian setback for all streams except the Rogue River is 50 feet from the ordinary high water level; the setback on the Rogue is 75 feet. As part of its review process for land use actions, Jackson County typically requires applicants to fill out a Riparian Landscape Plan showing how the proposed project will mitigate for unavoidable impacts to riparian areas. These plans must be reviewed and approved by the department before the County will accept them. Planting measures should be the same as section A.</p> <p><u>If the Applicant is unable to ensure the recommendations above</u>, The Department recommends the 30-foot wide area centered on the pipeline where no trees taller than 15 feet be allowed to grow; there will be a 20-foot wide area which will be maintained in an herbaceous state that provides very limited RMA function. The maintenance corridor will alter the vegetation in riparian areas for the life of the project and should require mitigation. Pacific Connector should calculate</p>
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	<p>Use and Development Ordinance (LUDO) requires the department to complete an inspection for any land use action that will affect the Riparian Vegetation Corridor Overlay §3.32.200 (50 feet from high bank) and Significant Wetlands Overlay §3.32.700 (50 feet). Other counties that the pipeline passes through have similar riparian vegetation-related ordinances. The Douglas County ordinance requires the department to grant approval to reduce the setback or, if that is not possible, there is an appeals process through the county planners.</p> <p>C. Providing shade to streams is a critically important function of riparian areas, but there are many other functions. Healthy riparian areas contribute wood to streams which create habitat for fish and slow down stream flows during storms. Plant roots hold the soil in place which helps to prevent erosion. Riparian vegetation filters runoff reducing the amount of sediment and pollutants that enter the stream. Many terrestrial wildlife species rely on riparian vegetation for food, shelter, and migration corridors.</p> <p>D. The department notes that the PCGP project plan does not adequately address riparian impacts that will occur as a result of this project. The applicant states that they will replant riparian areas to within 25 ft. of streams, however, this fully fails to meet the ecological function measures of the RMA.</p>	<p>the amount of permanent impact from this loss of vegetation using the local riparian setback ordinances and be required to provide mitigation accordingly. Most riparian habitats will be considered Habitat Category 2 or 3 under the department Habitat Mitigation policy. In order to meet a "Net Benefit" through habitat restoration, the Department recommends the following:</p> <p><u>E. Thinning as Mitigation:</u> The department recommends:</p> <ul style="list-style-type: none"> <li>• This treatment be used only on a very limited basis if at all.</li> <li>• This type of treatment only be used in subbasins where no stream or downstream reach of a connected stream is considered 303d listed.</li> </ul> <p><u>Additional Riparian Recommendations:</u> The department recommends revisiting analysis and discussion of the following specific riparian impacts/mitigation components of the 2009 project FEIS:</p> <p>Revisit the sufficiency of the Compensatory Mitigation Plan (CMP) to fully mitigate project impacts. The CMP which was developed in close consultation with the USFS and other federal agencies and has been considered by the applicant to be sufficient to mitigate for impacts to federal and private lands. The department does not concur with the above conclusion.</p> <ul style="list-style-type: none"> <li>• The vast majority of proposed mitigation will occur on Federal lands whereas impacts to habitats will occur across Federal, State, and private ownerships creating an inequitable disparity between impact site and mitigation site location.</li> </ul> <p>According to the DEIS, a total of 90.7 acres of various types of riparian vegetation will be removed within riparian zones on federal property with additional acres on private</p>
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	<p>The DEIS does not establish the realistic importance of the RMA and permanent loss or conversion of vegetation in riparian areas due to the pipeline maintenance corridor.</p> <p><u>E. Thinning as Mitigation:</u> The DEIS notes in TABLE 4.1.3.5-32 and other locations thinning of the riparian forest as mitigation. The department recognizes that this treatment will produce harvest revenue, however, assuming that this treatment is aimed at producing greater growth through reducing stock densities, the department considers this treatment experimental and unlikely to yield benefits for fishery resources on medium and small streams as:</p> <ul style="list-style-type: none"> <li>• Due to existing stream protection buffers on federal lands most stands timber near streams are &gt;60yrs. in age. Individual trees in these stands largely have attributes (sufficient size and height) to provide good-excellent LWD for small streams and fair-good for smaller medium sized streams.</li> <li>• A number of small tributaries where treatments are proposed feed into larger tributaries that are 303d listed for temperature. If a particular</li> </ul>	<p>ownership that are within watersheds that provide critical habitat for either Oregon Coast (OC) and Southern Oregon/Northern California Coast (SONCC) coho salmon. Most of this habitat (70%) is on private land. The CMP focuses on a late successional and mid-seral forest subset within the lost riparian vegetation habitat. Most of this habitat (63%) is on private land. Yet, nearly the entire menu of mitigation for these impacts occurs on public land. Throughout project reviews, the department has recommended that mitigation occur on private lands where it may not occur otherwise.</p> <ul style="list-style-type: none"> <li>• The Department recommends further consideration of mitigation options on non-federal lands in order to achieve mitigation site locations commensurate to impact site locations.</li> <li>• The Department recommends that mitigation proposals should be expanded for impacts to fish species in addition to late successional and mid-seral forest riparian habitat across the pipeline route including the range of both OC and SONCC coho salmon. The proposed project would result in a loss of function of other riparian habitat types due to a lack of adequate proposed mitigation.</li> </ul> <p>The department recommends other priorities for mitigation in addition to large wood. These include, but are not limited to:</p> <ul style="list-style-type: none"> <li>• Purchase of in-stream water rights from willing sellers</li> <li>• Protection of riparian habitat on private land (purchases or easements from willing sellers),</li> <li>• Restoration of fish passage, and</li> <li>• Restoration of riparian habitat such as fencing and planting, non-native vegetation control, etc. (multi-year</li> </ul>
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		<p>stand is providing maximum shading overstocked and thinning will reduce shading there becomes a need for discussion to determine "Limiting Factors" for salmonids by individual watershed prior to thinning treatment. Increasing water temperature at time zero in the context of increasing LWD 100-200yrs. in the future fails to meet ecological objectives.</p> <ul style="list-style-type: none"> <li>• Thinning of overstocked stands decreases tree mortality, improves growth rates, and theoretically extends the life expectancy of trees. Overstocked stands have more disease issues and greater mortality, thus contributing more snag habitat and large wood to streams in upcoming years, while allowing remaining trees to continue to grow.</li> <li>• There is as of yet no data set documenting from time zero through to 200-300yrs. when it could be determined if the original treatment produced greater quantity of large wood for stream complexity.</li> </ul>	<p>projects) See Appendix B in this document.</p> <p>FERC's staff has previously recommended that PCGP develop a stream mitigation plan. The department has previously requested this as well.</p> <ul style="list-style-type: none"> <li>• The department recommends that the applicant complete a stream, riparian, wetland, and upland mitigation plan for all impacts (on federal and non-federal lands), which is acceptable to state and federal natural resource agencies and approved by the department prior to FERC authorization of this project.</li> </ul> <p>5. The department notes that proposed mitigation measures in the CMP are likely not adequate. Each of these stream crossings will need to be assessed during a site visit with a department biologist to assess project-related impacts. These site visits will be used to determine:</p> <ul style="list-style-type: none"> <li>• The department anticipates that the applicant will use all measures available to determine fish distribution, however, in the rare instance that there remains uncertainty concerning fish use of a stream department staff will need to assist with historic and present fish presence/absence if unknown and species expected to be present.</li> <li>• Individual Habitat Categorization under the department Habitat Mitigation Policy and to assist the project proponents in determining suitable mitigation to offset those</li> <li>• The department strongly objects to the Environmental Investigator (EI) determining mitigation needs during implementation as described in the FERC Wetland and Waterbody Construction and Mitigation</li> </ul>
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			Procedures. Site specific impacts will need to be assessed at each stream or river crossing to determine mitigation needs for each unique site based on the department Fish and Wildlife Habitat Mitigation Policy.	SA1-282 Cont'd
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Appendix DOGAMI



**Oregon**  
John A. Kitzhaber, MD, Governor

**Department of Geology and Mineral Industries**

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October 14, 2014

Andrea Goodwin  
Energy Facility Siting Analyst  
Oregon Department of Energy  
625 Marion Street NE  
Salem, OR 97301

Re: Proposed South Dunes Power Plant, Coos County, Oregon, Revised (RAI-1) Pre-Application  
for Site Certificate (ASC) Appendix Review by DOGAMI

Dear Ms. Goodwin,

The Oregon Department of Geology and Mineral Industries (DOGAMI) performed a review of the proposed South Dunes Power Plant Project (SDPP) Revised (RAI-1) Pre-Application for Site Certificate (pASC) Appendix dated June 2014. DOGAMI's review included the appendix to Exhibit H which is 895 pages long. The purpose of the review was primarily to see if the appendix addressed any of our previous comments (attached) and if we had any comments directly about the appendix. As discussed with ODOE staff, we performed this appendix review at an overview level.

Our review indicated that most of our previous comments were not addressed in the documents provided. We have added some new comments concerning the appendix. We have attached those new comments along with our existing comments from the February and August reviews to this letter. DOGAMI staff attended the September 17th KVB construction briefing. Several issues were described at the briefing that are relevant to DOGAMI's geotechnical and geohazards review, none of which appear to be addressed in the appendix documents. These issues include, but are not limited to, the need for removal of buried peat deposits beneath the site, the evaluation of liquefaction mitigation measures and the proposed mitigation plan, the design of fills and embankments to mitigate tsunami inundation, and the planned use of dredge spoils for fill at the SDPP.

We appreciate the opportunity to participate in the EFSC process. If you have any questions, please contact me at 971-673-1538 or [bill.burns@dogami.state.or.us](mailto:bill.burns@dogami.state.or.us).

Sincerely,

William Burns, MS, CEG  
Engineering Geologist, DOGAMI

cc: Vicki McConnell, Director DOGAMI; Richard Whitman, Director GNRO; Michael Kaplan,  
Acting Director ODOE

Attachments: Proposed South Dunes Power Plant Project, Application for Site Certificate (ASC),  
DOGAMI Comments; General Scope of DOGAMI Review; DOGAMI Review pASC August  
2014; DOGAMI Review pASC February 2014

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Appendix

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**Proposed South Dunes Power Plant Project  
Application for Site Certificate (ASC) Comments  
Oregon Department of Geology and Mineral Industries**

SA1-283

**Comments on October 17, 2014 (Appendix to Exhibit H)**

The appendix was extracted from the larger PDF document and divided into sections as follows. The page numbers below refer to the overall PDF document, not the individual pages numbers in each report. The reports with \* were not reviewed.

Report 1 (p2-144) Geotechnical Investigation (2007)  
Report 2 (p145-196) Pressuremeter Testing Report  
Report 3 (p197-202) Groundwater Review (2006)\*  
Report 4 (p203-219) Liquefy Pro Results  
Report 5 (p220-237) Geotechnical Report on Settlement  
Report 6 (p238-530) Geotechnical Data Report (2014)  
Report 7 (p531-607) Cone Penetrometer Testing Report  
Report 8 (p608-643) Test Pits  
Report 9 (p644-657) Piezometers  
Report 10 (p652-657) Pump Testing\*  
Report 11 (p658-755) Laboratory Testing  
Report 12 (p756-759) Direct Shear Testing  
Report 13 (p760-762) Thermal Analysis of Native Soil\*  
Report 14 (p763-782) Soil Chemical Analysis\*  
Report 15 (p783-822) Groundwater Quality Analysis\*  
Report 16 (p823-875) Mill Site Geotechnical Report  
Report 17 (p876-878) Correspondence with DOGAMI.  
Report 18 (p879-895) Tsunami Hydro Modeling

**Location in Appendix (report number, PDF page)**

Global Item #1

**Comment**

The 18 reports in the Exhibit H Appendix (see above list) are not put into context. Some of the reports included in the appendix appear to be focused on other sites, for example report 1 (Geotechnical Investigation) is focused on the LNG tank site which is not the subject of our review. We were unsure of the context of some of the reports that were included, for example reports 13, 14, and 15, as they seemed to be focused on topics outside the typical scope of Exhibit H. Also, DOGAMI does not typically perform tasks related to these topics and therefore does not have the expertise for review. Some analyses, such as on probabilistic seismic hazard assessment (PSHA), lateral spreading, and soil-structure interaction, were not yet available thus were not reviewed.

In order to effectively address these and previous comments, we strongly urge the applicant to provide a single comprehensive report describing the overall geotechnical and geologic hazard issues and the steps taken to assess and mitigate them. The report should systematically list and address each of the previous DOGAMI comments. Detailed consultant reports can be referenced in the report and provided as appendices.

Oregon State Agency Consolidated Comments

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**SA1**

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The following document contains the State's comments on the Applicant's Application for Site Certification; it is therefore, not a comment on the FERC Draft EIS.

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**Location in Appendix (report number, PDF page)**

Report 1, page 5

**Comment**

Seismic design documents are discussed including design codes. Some referenced codes are now outdated, for example ASCE 7-05 (2005) has been updated to ASCE 7-10 (2010). The applicant will need to use the updated codes. The applicant should provide responses for the current code or acknowledge the current codes will be followed.

**Location in Appendix (report number, PDF page)**

Report 1, page 6

**Comment**

Category I, II, and III structures are discussed. Certain structures are dependent on other structures and can adversely impact the safe performance of category structures, and should be identified and designed to a performance standard that ensures adequate safety.

**Location in Appendix (report number, PDF page)**

Report 1, page 10 and Report 18

**Comment**

Co-seismic subsidence is discussed and a range from 0 ft to 12 ft is provided. Exhibit H states a value of 2 m. The tsunami modeling report (report 18) uses a value of 2.32 m, and it is unclear how much settlement from liquefaction and lateral spreading were taken into account in assuming this subsidence value (e.g., Report 18, Figure 2 on page 4 and page 11). There appears to be inconsistent values used for different analyses. A final value or range of values should be selected, explained and substantiated. This is important as other hazard assessments and mitigation build on this data.

**Location in Appendix (report number, PDF page)**

Report 1, pages 8 and 9

**Comment**

What liquefaction triggering methods were used (e.g., in Liquefy Pro V4) for this analysis? What assumptions, uncertainties in the analysis, and limitations were used? Was this analysis performed in accordance with any particular state-of-practice guideline?

Specifically, how were the MCE, OBE and DE determined for the liquefaction analysis? Justify the selection of a magnitude 9 for MCE and magnitude 8 for the OBE and DE.

How were the PGA values determined for the MCE, OBE and DE? Justify the selection of the values.

What ground motion predictive equations (GMPEs) were used? Justify the selection of the GMPEs used.

What liquefaction consequence methods were used? Is using one method to evaluate co-seismic settlement from liquefaction standard of practice for this type of project? For this analysis, what were the assumptions, uncertainties and the limitations?

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What are the liquefaction effects on structures, foundations, equipment and pipelines, including buoyancy effects?

**Location in Appendix (report number, PDF page)**

Report 1, page 14

**Comment**

Potential liquefaction damage is discussed and recommendations for mitigation are presented. However, the recommendations for ground improvements are only related to depths. Where, spatially (in map view), will the ground improvement be conducted? Are they throughout the entire site, under fire suppression system, under transmission corridors (electric and gas pipeline), under emergency access corridors or under perimeter berms? This is important because many components of the site are dependent on other components. For example the raised site is dependent on the fill embankments, which are dependent on the ground below the embankments and as discussed in other comments, life safety from the tsunami hazard might be dependent on all of these other components.

**Location in Appendix (report number, PDF page)**

Report 18

**Comment**

Where is the SDPP fill pad and/or berms? The applicant should provide clearer figures including close ups of appropriate areas in the vicinity of the SDPP site. Current illustrations have topographic contours and other key data that are very difficult to decipher.

What are the tsunami modeling results at the SDPP site?

What are the potential tsunami effects that may impact the site, including underwater tsunami loads?

What is the potential for ballistic impact to the facility by debris, including local ships and logs?

Erosion of dunes west of the site by the scenario tsunami could significantly increase tsunami impact. Has this been evaluated and, if so, what mitigation is planned?

In addition to dune erosion, what are other the potential tsunami effects off the SDPP site that may impact the site?

What is the conclusion about tsunami impacts to the SDPP site?

What are the limitations of the tsunami model?

What are the assumptions made in the model?

What is the fault rupture scenario used in the tsunami model?

What are the uncertainties in the earthquake source and tsunami models, including where are they not conservative? Quantify the uncertainties as much as possible.

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The site is modeled by the scenario (L1) tsunami and the much larger local tsunami scenario (XXL1) used for Oregon tsunami evacuation maps (see <http://www.oregongeology.org/pubs/tsubrochures/CoosBayEvac.pdf>). The Tsunami Hydro Modeling report identifies 1,500 seconds (25 minutes) as the arrival time of the first tsunami wave at the site. Is this the time to be used for evacuation planning and/or how does the applicant intend to provide life safety from tsunami at the site?

It appears in the exhibit and appendix that the applicant intends to have people remain at the site during the earthquake and tsunami, although it is never clearly stated in the exhibit or appendix. If this is true, then the entire fill pad, embankments, and ground beneath the fill should be designed and constructed to withstand the impact of the earthquake and earthquake induced hazards including liquefaction, slope embankment failure, and tsunami erosion. The plan should account for all tsunami hazards plus other hazards, such as potential fires and hazmat spills.

#### Comments on August 25, 2014 (Exhibit H only)

##### Comment

We note the USGS recently (July 2014) released new earthquake hazard information for Oregon and the proposed site area (SDPP) appears to have some possibly significant changes in the hazard (Petersen and others, 2014).

##### References

Petersen, M.D., Moschetti, M.P., Powers, P.M., Mueller, C.S., Haller, K.M., Frankel, A.D., Zeng, Yuehua, Rezaeian, Sanaz, Harnsen, S.C., Boyd, O.S., Field, Ned, Chen, Rui, Rukstales, K.S., Luco, Nico, Wheeler, R.L., Williams, R.A., and Olsen, A.H., 2014, Documentation for the 2014 update of the United States national seismic hazard maps: U.S. Geological Survey Open-File Report 2014-1091, 243 p., <http://dx.doi.org/10.333/ofr/20141091>.

#### Comments on February 7, 2014 (Exhibit H only)

##### Location in Exhibit H (section, page)

Global Item #1

##### Comment

When considering geologic hazard mitigation design and appropriate factors of safety, the applicant should take into account that the LNG export terminal has strong dependencies on the proposed SDPP and vice versa. We recommend an independent technical peer review of the interdependencies between the two facilities to evaluate for potential failure modes relating to public safety concerns. Currently, each facility is being independently designed, which is common practice. However, without clear regard of the each facility's intended purpose and their operational interdependencies, it is possible that the failure of one facility could negatively impact the operation of the other facility. We want to ensure that adequate safeguards be considered to control against a cascading failure of both facilities in light of the fact that both facilities are located in a high seismic hazard zone in the tsunami inundation zone.



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To support our recommendation for an independent technical review, we provide this example. During the March 2011 Tohoku earthquake, the power supply for the Fukushima nuclear power plant was severed due to landslides causing the collapse of the electrical transmission towers. Further, the emergency generators for the power plant failed due to tsunami inundation flooding, the nuclear reactors suffered serious damage that negatively impacted both public safety and the environment. An independent review to evaluate potential cascading failures may have averted this disaster.

**Location in Exhibit H (section, page)**  
Global Item #2

**Comment**

There is no mention of technical peer review of the proposed detailed geotechnical and seismic reports to ensure technical competency. An independent (non-government agency) technical peer review should be performed on the detailed geotechnical and seismic reports. Review should be done by qualified and licensed geologists and engineers. All technical peer review comments should be recorded and addressed by the applicant as part of the EFSC review process.

**Location in Exhibit H (section, page)**  
Global Item #3

**Comment**

Monitoring and corrective actions are not adequately addressed. We recommend including a monitoring program with regularly scheduled inspections and post event inspections, such as after earthquakes/tsunamis or storms. We further recommend that, based on collected monitoring information and analyses after events, corrective actions are taken to reduce potential future public safety related issues.

**Location in Exhibit H (section, page, line)**  
Transmission Lines and Pipelines, H-11

**Comment**

We recommend that all geologic hazards which may impact the transmission lines and pipelines be identified. These should include but not be limited to earthquake shaking, tsunami, lateral spread, liquefaction, subsidence, erosion, riverine flooding and climate change hazards including sea level rise.

**Location in Exhibit H (section, page, line)**  
Recorded Earthquakes, H-16, line 373-376

**Comment**

It is scientific consensus that a magnitude 9 Cascadia subduction zone earthquake occurred along the coast of the Pacific NW (including the Oregon) on January 26, 1700. Remove the language that states "may have occurred" and provide an overview of the current scientific understanding of Cascadia earthquake occurrences and hazards. Two recent notable scientific references are: U.S. Geological Survey Professional Paper 1707 (Atwater et al, 2005) and U.S. Geological Survey Professional Paper 1661 (Goldfinger et al, 2013).

**Location in Exhibit H (section, page, line)**  
Ground Failure, H-18

**Comment**

Oregon Geologic Database Compilation (OGDC-5) indicates that a mapped fault exists directly adjacent and/or within the site boundary. No mapped Quaternary faults are identified within or directly adjacent to the site in the Personius et al (2003) database, however, this regional (statewide) fault database should not be solely used to make site-specific conclusions. Both

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published and unpublished faults should be investigated so that clear conclusions about the possibility of surface fault rupture and other ground failure hazards at the site can be made.

**Location in Exhibit H (section, page, line)**  
Tsunami Inundation, H-20

**Comment**

The site is clearly located within the tsunami regulatory map zone. The site is also clearly within the new tsunami inundation hazard maps published by DOGAMI. The applicant should clearly indicate that the site is located within the tsunami regulatory map zone. We recommend reading and complying with the following document <http://www.oregongeology.org/pubs/ofr/O-03-05.pdf> and following the current Oregon Structural Specially Code section 1803 and ORS 455.446 and 455.447.

We recommend that any mitigation should include life safety level design, which may include, but not be limited to items such as structural and/or geotechnical design, evacuation planning, and education. Mitigation should also include expected scouring, erosion, debris impact and co-seismic subsidence.

**Location in Exhibit H (section, page, line)**  
Flood/Channel Migration, H-22

**Comment**

The site appears to have portions located within the current (2009) Effective FEMA Special Flood Hazard Areas (SFHA) and within the proposed (2014) Preliminary FEMA SFHA. Since the applicant has proposed to place fill on site, possibly within the SFHA, we recommend contacting FEMA Region X (<http://www.fema.gov/region-x-ak-id-or-wa>) and the Oregon Department of Land Conservation and Development (<http://www.oregon.gov/ldc/Pages/index.aspx>) to discuss regulations and guidelines associated with any proposed earthwork in the floodplain. We recommend that the proposed fill placement be designed and engineered to avoid the creation of new hazards.

**Location in Exhibit H (section, page, line)**  
Flood/Channel Migration, H-22

**Comment**

DOGAMI published channel migration hazard maps for the Coos River and Coquille (OFR 11-09). The Coos River study does not include the proposed site, but does include some areas just upstream of the site, which indicated channel migration hazard. The Coquille River study does include hazard mapping all the way to the ocean. Both of these studies should be reviewed as part of the ASC, and appropriate corrective actions should be taken to meet regulations, avoid contributing to flood and channel migration hazards, and protect the environment.

**Location in Exhibit H (section, page, line)**  
Erosion, H-22

**Comment**

The site should be evaluated and designed for possible ocean and/or river flooding and waves originating from wind waves and ship wakes.

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#### References

- Atwater, et al., 2005. The Orphan Tsunami of 1700, U.S. Geological Survey, Professional Paper 1701
- Goldfinger, C., Nelson, C.H., Morey, A.E., Johnson, J.E., Patton, J.R., Karabanov, E., Gutiérrez-Pastor, J., Eriksson, A.T., Gracia, E., Dunhill, G., Enkin, R.J., Dallimore, A., and Vallier, T., 2012. Turbidite event history—Methods and implications for Holocene paleoseismicity of the Cascadia subduction zone: U.S. Geological Survey Professional Paper 1661–F, 170 p. (Available at <http://pubs.usgs.gov/pp/pp1661f/>).
- Ma, L., Madin, I. P., Olson, K.V., Watzig, R. J., Wells, R. E., and Priest, G. R., compilers, 2009, Oregon geologic data compilation [OGDC], release 5 (statewide): Oregon Department of Geology and Mineral Industries Digital Data Series OGDC-5, CD-ROM.
- Personius, et al. 2004. Map and data for Quaternary Faults and folds in Oregon, U.S. Geological Survey Open-File Report 03-095.
- TIM-Coos-05, Tsunami Inundation Maps for Coos Bay - North Bend, Coos County, Oregon, Oregon Department of Geology and Mineral Industries
- English, J.T., Coe, D.E., 2011. Channel Migration Hazard Maps, Coos County, Oregon. Oregon Department of Geology and Mineral Industries Open-File Report O-11-09

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#### GENERAL SCOPE OF DOGAMI REVIEW

We have scoped our efforts as follows:

- The Department of Geology and Mineral Industries (DOGAMI) is a "commenting agency" and generally requires no permits, except for section 1803.2.1 Tsunami Inundation Zone of the Oregon Structural Specially Code (Oregon Revised Statutes [ORS] 455.446). The focus of ORS 445.447 is on the safety of occupants during tsunami events.
- Our area of responsibility in this review includes geologic and seismic hazards as described in Oregon Administrative Rules (OAR) 345-21-0010 h and OAR 345-22-020 (both attached). These relate to vulnerability to geologic hazards and to standards respectively.
- The charge to this agency to address these concerns is in accordance with the general terms and budget of an Interagency Agreement between DOGAMI and the Oregon Department of Energy (ODOE). Included tasks are Notice of Intent and Application for Site Certificate reviews. Other tasks are possible upon specific request from the council.
- Our review is limited to the documents provided. We did not do any new exploration and/or analysis. Our comments are not based on site-specific evaluation by DOGAMI. The intended depth of our review is at an overview and/or regional level of detail. For example, we review the documents to make sure the applicant has answered the questions in the attached OARs and that the answers seem reasonable.

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**OAR 345-021-0010 h**

**Contents of an Application**

(1) The project order described in OAR 345-015-0160(1) identifies the provisions of this rule applicable to the application for the proposed facility, including any appropriate modifications to applicable provisions of this rule. The applicant shall include in its application for a site certificate information that addresses each provision of this rule identified in the project order. The applicant shall designate the information with the appropriate exhibit label identified in the following subsections. If the same information is required in each of several exhibits the applicant may provide the required information in one exhibit and include appropriate references in the others. For the purpose of submitting an application for a site certificate in an expedited review granted under OAR 345-015-0300 or OAR 345-015-0310, the applicant shall include information that addresses all provisions of this rule. In such expedited reviews, analysis areas addressed in this rule are the study areas defined in OAR 345-001-0010, subject to later modification in the project order.

(h) **Exhibit H.** Information from reasonably available sources regarding the geological and soil stability within the analysis area, providing evidence to support findings by the Council as required by OAR 345-022-0020, including:

(A) A geologic report meeting the guidance in Oregon Department of Geology and Mineral Industries open file report 00-04 "Guidelines for Engineering Geologic reports and Site-Specific Seismic Hazard Reports."

(B) A description and schedule of site-specific geotechnical work that will be performed before construction for inclusion in the site certificate as conditions.

(C) Evidence of consultation with the Oregon Department of Geology and Mineral Industries regarding the appropriate site-specific geotechnical work that must be performed before submitting the application for the Department to determine that the application is complete.

(D) For all transmission lines, a description of locations along the proposed route where the applicant proposes to perform site specific geotechnical work, including but not limited to railroad crossings, major road crossings, river crossings, dead ends, corners, and portions of the proposed route where geologic reconnaissance and other site specific studies provide evidence of existing landslides or marginally stable slopes that could be made unstable by the planned construction.

(E) For all pipelines that would carry explosive, flammable or hazardous materials, a description of locations along the proposed route where the applicant proposes to perform site specific geotechnical work, including but not limited to railroad crossings, major road crossings, river crossings and portions of the proposed alignment where geologic reconnaissance and other site specific studies provide evidence of existing landslides or marginally stable slopes that could be made unstable by the planned construction.

(F) An assessment of seismic hazards. For the purposes of this assessment, the maximum probable earthquake (MPE) is the maximum earthquake that could occur under the known tectonic framework with a 10 percent chance of being exceeded in a 50 year period. If seismic sources are not mapped sufficiently to identify the ground motions above, the applicant shall provide a probabilistic seismic hazard analysis to identify the peak ground accelerations expected at the site for a 500 year recurrence interval and a 5000 year recurrence interval. In the assessment, the applicant shall include:

(i) Identification of the Maximum Considered Earthquake Ground Motion as shown for the site under the 2009 International Building Code.

(ii) Identification and characterization of all earthquake sources capable of generating median peak ground accelerations greater than 0.05g on rock at the site. For each earthquake source, the applicant shall assess the magnitude and minimum epicentral distance of the maximum credible earthquake (MCE).

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(iii) A description of any recorded earthquakes within 50 miles of the site and of recorded earthquakes greater than 50 miles from the site that caused ground shaking at the site more intense than the Modified Mercalli III intensity. The applicant shall include the date of occurrence and a description of the earthquake that includes its magnitude and highest intensity and its epicenter location or region of highest intensity.

(iv) Assessment of the median ground response spectrum from the MCE and the MPE and identification of the spectral accelerations greater than the design spectrum provided in the 2010 Oregon Structural Specialty Code. The applicant shall include a description of the probable behavior of the subsurface materials and amplification by subsurface materials and any topographic or subsurface conditions that could result in expected ground motions greater than those characteristic of the Maximum Considered Earthquake Ground Motion identified above.

(v) An assessment of seismic hazards expected to result from reasonably probable seismic events. As used in this rule "seismic hazard" includes ground shaking, ground failure, landslide, lateral spreading, liquefaction, tsunami inundation, fault displacement and subsidence.

(G) An assessment of soil-related hazards such as landslides, flooding and erosion which could, in the absence of a seismic event, adversely affect or be aggravated by the construction or operation of the facility.

(H) An explanation of how the applicant will design, engineer and construct the facility to avoid dangers to human safety from the seismic hazards identified in paragraph (F). The applicant shall include proposed design and engineering features, applicable construction codes, and any monitoring for seismic hazards.

(I) An explanation of how the applicant will design, engineer and construct the facility to adequately avoid dangers to human safety presented by the hazards identified in paragraph (G).

#### Division 22

##### OAR 345-022-0020: Structural Standard

(1) Except for facilities described in sections (2) and (3), to issue a site certificate, the Council must find that:

(a) The applicant, through appropriate site-specific study, has adequately characterized the site as to the Maximum Considered Earthquake Ground Motion as shown for the site in the 2009 International Building Code and maximum probable ground motion, taking into account ground failure and amplification for the site specific soil profile under the maximum credible and maximum probable seismic events; and

(b) The applicant can design, engineer, and construct the facility to avoid dangers to human safety presented by seismic hazards affecting the site that are expected to result from maximum probable ground motion events. As used in this rule "seismic hazard" includes ground shaking, ground failure, landslide, liquefaction, lateral spreading, tsunami inundation, fault displacement, and subsidence;

(c) The applicant, through appropriate site-specific study, has adequately characterized the potential geological and soils hazards of the site and its vicinity that could, in the absence of a seismic event, adversely affect, or be aggravated by, the construction and operation of the proposed facility; and

(d) The applicant can design, engineer and construct the facility to avoid dangers to human safety presented by the hazards identified in subsection (c).

(2) The Council may issue a site certificate for a facility that would produce power from wind, solar or geothermal energy without making the findings described in section (1). However, the Council may apply the requirements of section (1) to impose conditions on a site certificate issued for such a facility.

(3) The Council may issue a site certificate for a special criteria facility under OAR 345-015-0310 without making the findings described in section (1). However, the Council may apply the requirements of section (1) to impose conditions on a site certificate issued for such a facility.



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**Oregon**  
John A. Kitahara, MD, Governor

**Department of Geology and Mineral Industries**

Administrative Office  
800 NE Oregon St., #28, Suite 965  
Portland, OR 97232-2162  
(971) 673-1555  
Fax: (971) 673-1562  
www.oregongeology.org

August 25, 2014

Andrea Goodwin  
Energy Facility Siting Analyst  
Oregon Department of Energy  
625 Marion Street NE  
Salem, OR 97301

Re: Proposed South Dunes Power Plant, Coos County, Oregon, Revised (RAI-1) Pre-Application  
for Site Certificate (ASC) Review by DOGAMI

Dear Ms. Goodwin,

The Oregon Department of Geology and Mineral Industries (DOGAMI) performed a review of the proposed South Dunes Power Plant Project (SDPP) Revised (RAI-1) Pre-Application for Site Certificate (pASC) dated June 2014. DOGAMI's review included Exhibit H: Geology. The purpose of the review was primarily to see if the applicant had revised the ASC according to our comments in February 2014.

Our review indicated that almost all of our comments were not addressed. Therefore, we recommend our original comments in our February 2014 review, except our comment on page H-11 concerning transmission lines and pipelines, which appears to have been partially addressed. We also note the USGS has very recently (July 2014) released new earthquake hazard information for Oregon and the proposed site area (SDPP) appears to have some possibly significant changes in the hazard (Petersen and others, 2014).

To date DOGAMI has only reviewed the exhibit H document (30 pages). The current ASC (RAI-1) states the preliminary (pre-final design) geotechnical investigation is complete. The appendix reports attached to the exhibit H are roughly 900 pages long. As stated in our February 2014 review "The proposed facility would be located in the state's highest seismic hazard region and within the tsunami inundation zone, thus, exercising caution is strongly advised." Because of these reasons, we recommend DOGAMI review the geotechnical reports and tsunami reports for completeness. DOGAMI would require several weeks or possibly longer. Please let us know if ODOE wants us to proceed.

Again we appreciate the opportunity to participate in the EFSC process. If you have any questions, please contact me at 971-673-1538 or bill.burns@dogami.state.or.us.

Sincerely,

William Burns, MS, CEG  
Engineering Geologist, DOGAMI

cc: Vicki McConnell, Director DOGAMI; Richard Whitman, Director GNRO; Lisa Schwartz,  
Director ODOE

Attachments: DOGAMI review February 2014

Oregon State Agency Consolidated Comments

Appendix

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August 25, 2014  
Page 2

Petersen, M.D., Moschetti, M.P., Powers, P.M., Mueller, C.S., Haller, K.M., Frankel, A.D., Zeng, Yuehua, Rezaeian, Sanaz, Harmsen, S.C., Boyd, O.S., Field, Ned, Chen, Rui, Rukstales, K.S., Luco, Nico, Wheeler, R.L., Williams, R.A., and Olsen, A.H., 2014, Documentation for the 2014 update of the United States national seismic hazard maps: U.S. Geological Survey Open-File Report 2014-1091, 243 p., <http://dx.doi.org/10.333/ofr20141091>.

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Appendix

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SA1

Continued, page 212 of 241



**Oregon**  
John A. Kitzhaber, MD, Governor

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800 NE Oregon St., #28, Suite 965  
Portland, OR 97232-2162  
(971) 673-1555  
Fax: (971) 673-1562  
www.oregongeology.org

February 7, 2014

Chris Green  
Energy Facility Siting Analyst  
Oregon Department of Energy  
625 Marion Street NE

Re: Proposed South Dunes Power Plant, Coos County, Oregon, Pre Application for Site  
Certificate (ASC) Review by DOGAMI

Dear Mr. Green,

The Oregon Department of Geology and Mineral Industries (DOGAMI) performed a review of the proposed South Dunes Power Plant Project (SDPP) Pre Application for Site Certificate (pASC) dated January 6, 2014. DOGAMI's review included Exhibit H: Geology. We do stand ready to review any other sections in detail that you might request.

Our review indicated that many geologic hazards have been considered and addressed in documents, but the pASC lacks completeness. We have listed our review comments in the attached documents. However we have two overall concerns listed below:

1. The proposed facility would be located in the state's highest seismic hazard region and within the tsunami inundation zone, thus, exercising caution is strongly advised.
2. We would like to emphasize the importance of conducting an independent technical peer review of the interdependencies between the proposed SDPP and the proposed LNG terminal to evaluate for potential failure modes relating to public safety concerns to ensure that adequate safeguards be considered to control against a cascading failure of both facilities.

Please refer to our comments, which are organized by the sections of the Exhibit, for additional information.

Again we appreciate the opportunity to participate in the EFSC process. If you have any questions, please contact me at 971-673-1538 or bill.burns@dogami.state.or.us.

Sincerely,

William Burns, MS, CEG  
Engineering Geologist, DOGAMI

cc: Vicki McConnell, Director DOGAMI; Richard Whitman, Director GNRO; Lisa Schwartz,  
Director ODOE

Attachments: Review comments, Figures 1-3, 2 emails, DOGAMI Factsheets: LNG, Tsunami,  
FEMA Flood; DOGAMI Cascadia: 2011 Japan Earthquake and Tsunami, Oregon Earthquake Risk

Oregon State Agency Consolidated Comments

Appendix

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**Proposed South Dunes Power Plant Project  
Preliminary Site Certificate Application - Exhibit H  
Comments  
Oregon Department of Geology and Mineral Industries**

SA1-284

**Location in Exhibit H (section, page)**

Global Item #1

**Comment**

When considering geologic hazard mitigation design and appropriate levels of a factor of safety, the applicant should take into account that the LNG export terminal has strong dependencies on the proposed SDPP and vice versa. We strongly recommend an independent technical peer review of the interdependencies between the two facilities to evaluate for potential failure modes relating to public safety concerns. Currently, each facility is being independently designed, which is common practice. However, without clear regard of the each facilities' intended purpose and their operational interdependencies, it is possible that the failure of one facility could negatively impact the operation of the other facility. We want to ensure that adequate safeguards be considered to control against a cascading failure of both facilities in light of the fact that both facilities are located in a high seismic hazard zone in the tsunami inundation zone.

To support our recommendation for an independent technical review, we provide this example. During the March 2011 Tohoku earthquake, the power supply for the Fukushima nuclear power plant was severed due to landslides causing the collapse of the electrical transmission towers. Further, the emergency generators for the power plant failed due to tsunami inundation flooding, the nuclear reactors suffered serious damage that negatively impacted both public safety and the environment. An independent review to evaluate potential cascading failures may have averted this disaster.

**Location in Exhibit H (section, page)**

Global Item #2

**Comment**

No mention of technical peer review of the proposed detailed geotechnical and seismic reports to ensure technical competency. An independent (non-government agency) technical peer review should be performed on the detailed geotechnical and seismic reports to ensure technical competency. Review should be done by qualified and licensed geologists and engineers. All technical peer review comments should be recorded and addressed by the applicant as part of the EFSC review process.

**Location in Exhibit H (section, page)**

Global Item #3

**Comment**

Monitoring and corrective actions are not adequately addressed. We recommend including a monitoring program with regularly scheduled inspections and post event inspections, such as after earthquakes/tsunamis or storms. We further recommend that, based on collected monitoring information and analyses after events, corrective actions are taken to reduce potential future public safety related issues.

Oregon State Agency Consolidated Comments

Appendix

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**SA1**

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SA1-284

The following document contains the State's comments on the Applicant's Application for Site Certification; it is therefore, not a comment on the FERC Draft EIS.

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SA1

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**Location in Exhibit H (section, page, line)**

Transmission Lines and Pipelines, H-11

**Comment**

We recommend that all geologic hazards which may impact the transmission lines and pipelines be identified. These should include but not be limited to earthquake shaking, tsunami, lateral spread, liquefaction, subsidence, erosion, riverine flooding and climate change hazards including sea level rise.

**Location in Exhibit H (section, page, line)**

Recorded Earthquakes, H-16, line 373-376

**Comment**

It is scientific consensus that a magnitude 9 Cascadia subduction zone earthquake occurred along the coast of the Pacific NW (including the Oregon) on January 26, 1700. Remove the language that states "may have occurred" and provide an overview of the current scientific understanding of Cascadia earthquake occurrences and hazards. Two recent notable scientific references are: U.S. Geological Survey Professional Paper 1707 (Atwater et al, 2005) and U.S. Geological Survey Professional Paper 1661 (Goldfinger et al, 2013).

**Location in Exhibit H (section, page, line)**

Ground Failure, H-18

**Comment**

Oregon Geologic Database Compilation (OGDC-5) indicates that a mapped fault exists directly adjacent and/or within the site boundary (Figure 1). No mapped Quaternary faults are identified within or directly adjacent to the site in the Personius et al (2003) database, however, this regional (statewide) fault database should not be solely used to make site-specific conclusions. Both published and unpublished faults should be investigated so that clear conclusions about the possibility of surface fault rupture and other ground failure hazards at the site can be made.

**Location in Exhibit H (section, page, line)**

Tsunami Inundation, H-20

**Comment**

The site is clearly located within the tsunami regulatory map zone (Figure 2; building code). The site is also clearly within the new tsunami inundation hazard maps published by DOGAMI (Figure 2; L tsunami). The applicant should clearly indicate that the site is located within the tsunami regulatory map zone. We recommend reading and complying with the following document <http://www.oregongeology.org/pubs/ofr/OJ-03-05.pdf> and following the current Oregon Structural Specialty Code section 1803 and ORS 455.446 and 455.447.

We recommend that any mitigation should include life safety level design, which may include, but not be limited to items such as structural and/or geotechnical design, evacuation planning, and education. Mitigation should also include expected scouring, erosion, debris impact and co-seismic subsidence.

**Location in Exhibit H (section, page, line)**

Flood/Channel Migration, H-22

**Comment**

The site appears to have portions located within the current (2009) Effective FEMA Special Flood Hazard Areas (SFHA) (Figure 3) and within the proposed (2014) Preliminary FEMA SFHA. Since the applicant has proposed to place fill on site, possibly within the SFHA, we recommend contacting FEMA Region X (<http://www.fema.gov/region-x-us-usa>) and the Oregon Department of Land Conservation and Development (<http://www.oregon.gov/land/Pages/index.aspx>) to discuss regulations and guidelines associated with any proposed earthwork in the floodplain. We recommend that the proposed fill placement be designed and engineered to avoid the creation of new hazards.

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**Location in Exhibit H (section, page, line)**

Flood/Channel Migration, H-22

**Comment**

DOGAMI published channel migration hazard maps for the Coos River and Coquille (OFR 11-09). The Coos River study does not include the proposed site, but does include some areas just upstream of the site, which indicated channel migration hazard. The Coquille River study does include hazard mapping all the way to the ocean. Both of these studies should be reviewed as part of the ASC, and appropriate corrective actions should be taken to meet regulations, avoid contributing to flood and channel migration hazards, and protect the environment.

**Location in Exhibit H (section, page, line)**

Erosion, H-22

**Comment**

The site should be evaluated and designed for possible ocean and/or river flooding and waves originating from wind waves and ship wakes.

**References**

Atwater, et al., 2005. The Orphan Tsunami of 1700, U.S. Geological Survey, Professional Paper 1701

Goldfinger, C., Nelson, C.H., Morey, A.E., Johnson, J.E., Patton, J.R., Karabanov, E., Gutiérrez-Pastor, J., Eriksson, A.T., Gracia, E., Dunhill, G., Enkin, R.J., Dallimore, A., and Vallier, T., 2012. Turbidite event history—Methods and implications for Holocene paleoseismicity of the Cascadia subduction zone: U.S. Geological Survey Professional Paper 1661–F, 170 p. (Available at <http://pubs.usgs.gov/pp/pp1661f/>).

Ma, L., Madin, I. P., Olson, K. V., Watzig, R. J., Wells, R. E., and Priest, G. R., compilers, 2009, Oregon geologic data compilation [OGDC], release 5 (statewide): Oregon Department of Geology and Mineral Industries Digital Data Series OGDC-5, CD-ROM.

Personius, et al., 2004. Map and data for Quaternary Faults and folds in Oregon, U.S. Geological Survey Open-File Report 03-095.

TIM-Coos-05, Tsunami Inundation Maps for Coos Bay - North Bend, Coos County, Oregon, Oregon Department of Geology and Mineral Industries

English, J.T., Coe, D.E., 2011. Channel Migration Hazard Maps, Coos County, Oregon, Oregon Department of Geology and Mineral Industries Open-File Report O-11-09

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Continued, page 216 of 241

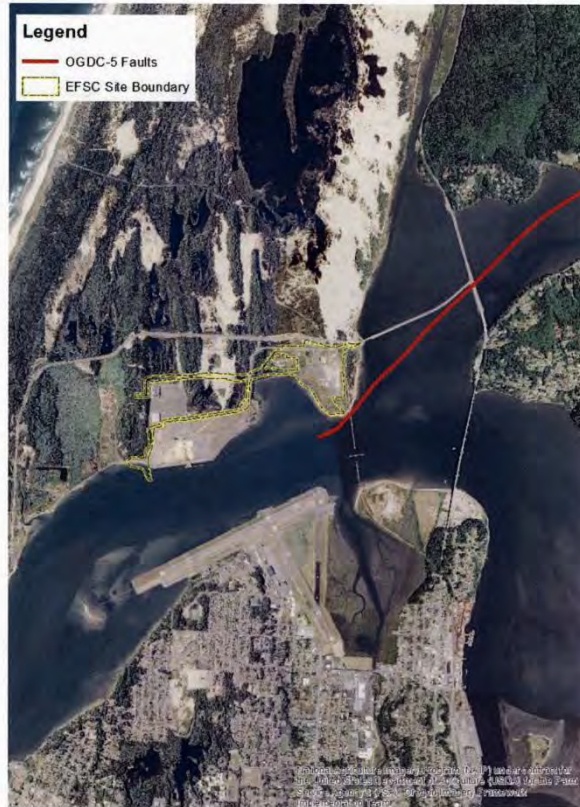


Figure 1. Map of the EFSC site boundary extent and the mapped fault from OGDC-5



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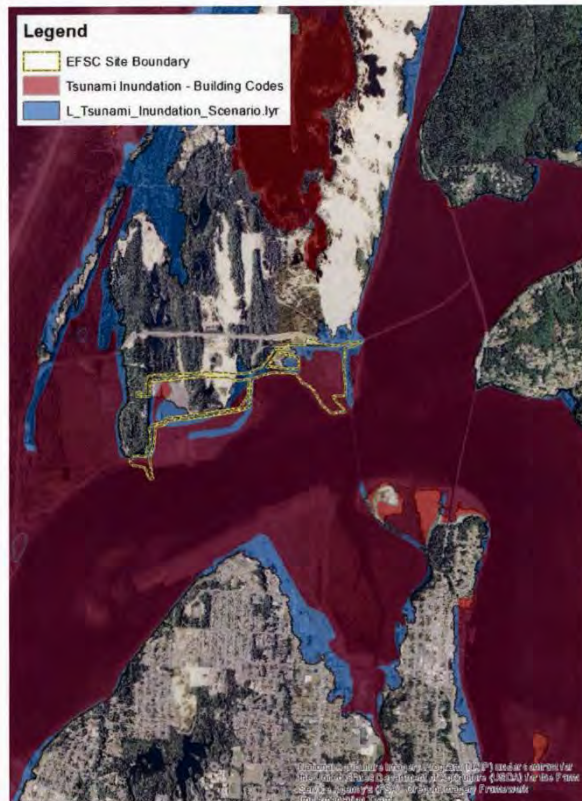


Figure 2. Tsunami inundation zone from DOGAMI OFR 95-67 (Priest, 1995). These (red areas – building codes) are the official tsunami regulatory maps for the state of Oregon and are for the implementation of ORS 455.446 and 455.447. The blue areas are from the new tsunami maps published by DOGAMI (TIM-Coos-05).

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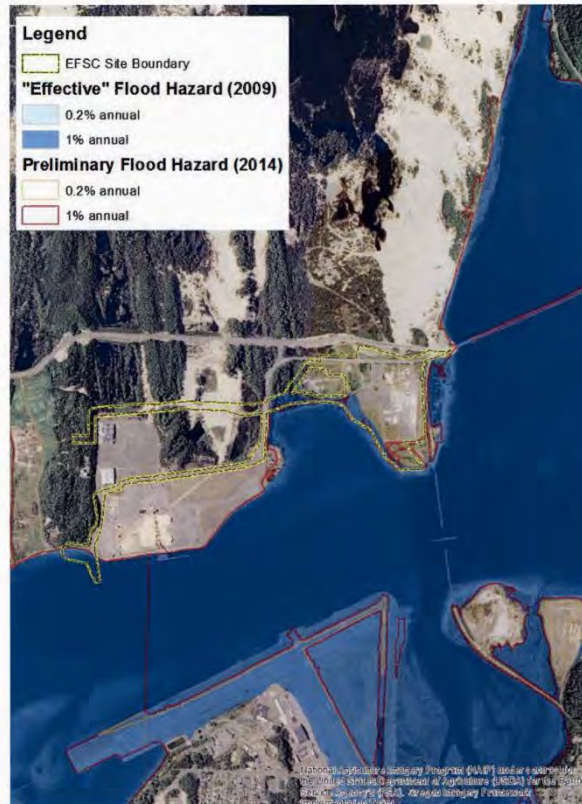


Figure 3. Map of the current FEMA flood hazard zones (effective, 2009) shown in blue and the zones which are very near becoming effective and probably will become effective in the next several months (preliminary, 2014).

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SA1

Continued, page 219 of 241

**From:** George Priest  
**Sent:** Wednesday, October 02, 2013 3:47 PM  
**To:** [rebachmanse@aol.com](mailto:rebachmanse@aol.com)  
**Cc:** Vicki McConnell; Andree Pollock; Bill Burns  
**Subject:** RE: Can you please call me? Regarding L1 return periods

It was good talking with you today, Bob.

As we discussed, the recurrence of our Cascadia tsunami scenarios is difficult to tease out of the Special Paper 43 logic tree, since the basal branch is labeled recurrence but is actually time over which slip deficit is assumed to accumulate. We corrected this in a new report accompanying digital release of the statewide inundation lines for 5 Cascadia (all splay fault sources, including L1) and the 2 maximum-considered distant tsunami scenarios. The basal branch is now labeled Slip Deficit Interval (yrs) (see attachment). The logic tree weights on each branch represent the fraction of the 20 full-margin Cascadia subduction zone ruptures over the last 10,000 years, so L branch weight of 0.15 = 3/20, or a nominal recurrence of 3/10,000 yrs. L1, the splay fault sub-branch has the highest sub-branch weight of the 3 sub-branches, because the scientific team felt that the 650-800 years of slip deficit release would almost certainly trigger the big splay fault mapped offshore.

As we also discussed, the L1 inundation is quite similar to inundation for a ~2500-yr exceedance level in preliminary results from the Crescent City pilot study of probabilistic tsunami hazard analysis (PTHA) using either the UW or the URS approach. Contact Rick Wilson of CGS for more information on that project.

I included as CC's Vicki McConnell, DOGAMI Director, and Andree Pollock, Deputy Director. Please copy them and Bill Burns (also CC'd) on all future e-mail regarding the LNG regulatory issues.

Regards,

George R. Priest, Ph.D., CEG  
Oregon Dept. of Geology and Mineral Industries  
Newport Coastal Field Office  
PO Box 1033  
Newport, OR 97365  
541-574-6642 x3  
[george.priest@dogami.state.or.us](mailto:george.priest@dogami.state.or.us)  
<http://www.oregongeology.org/sub/fieldoffices/George/georgepriest.htm>

**From:** [rebachmanse@aol.com](mailto:rebachmanse@aol.com) [<mailto:rebachmanse@aol.com>]  
**Sent:** Wednesday, October 02, 2013 2:32 PM  
**To:** George Priest  
**Subject:** Can you please call me? Regarding L1 return periods

George,



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Continued, page 220 of 241

Can you please call me at 949-495-4726. I have a question regarding the L1 return period for Jordan Cove (Coos Bay). In our discussions you had indicated the return period was in the range of 3333 years. However in Jan 2013 report for COOS Bay, Joseph Zhang indicates the L1 has a return period of 800 years and XL1 and XXL1 have return periods of 1200 years. I would like to clarify

Regards,  
Bob Bachman

Oregon State Agency Consolidated Comments

Appendix

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SA1

Continued, page 221 of 241

**From:** George Priest  
**Sent:** Monday, November 04, 2013 3:18 PM  
**To:** Bill Burns  
**Cc:** Andree Pollock; Vicki McConnell; Ian Madin  
**Subject:** RE: South Dunes Power Plant

Bill,

I just looked over the Coast and Harbor Engineering tsunami elevations relative to our simulation of L1 at Coos Bay. After adjusting for the slight difference in assumed tide (their MHW is 0.3 ft lower than our MHHW) and adding the 1.3 safety factor, their L1 elevations tend to be a few feet lower than ours, particularly in the middle of the bay (see attachment relative to their map below; ignore the point values labeled "9" in the "dry" areas inside the red inundation line). In the middle of the bay our adjusted elevations are 25-30 feet NAVD88 on the western side of the site and 18-20 feet on the eastern side; whereas, as you can see on their figure below, they have <24 ft throughout the middle of the bay. Our adjusted elevations match theirs almost exactly at the shoreline on the easternmost side of the cove, but even there their mid-bay elevations are a little lower. We also show more inundation even without the 1.3 safety factor, but that may not be very meaningful, since they are using lidar data updated from our 2009 data.

One possibility is that their simulation used a non-zero friction coefficient, whereas we used zero to err on the conservative side. It might be useful to know more about their friction coefficient (Manning Coefficient). Standard practice is a value of ~0.025.

Regards,  
George



Figure 9. (a) Extraction points; and (b) maximum adjusted water surface elevations in project vicinity overlaid on aerial image

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Continued, page 222 of 241

**From:** Bill Burns  
**Sent:** Tuesday, October 22, 2013 8:47 AM  
**To:** Mike Marshall  
**Cc:** George Priest  
**Subject:** RE: South Dunes Power Plant

Thanks Mike. Bill

**From:** Mike Marshall [<mailto:MMarshall@GRI.com>]  
**Sent:** Monday, October 21, 2013 3:10 PM  
**To:** Bill Burns  
**Cc:** Scott Schlechter; Michelle Dodgson; [bobbraddock@attolobal.net](mailto:bobbraddock@attolobal.net);  
[bjong@farallonconsulting.com](mailto:bjong@farallonconsulting.com)  
**Subject:** South Dunes Power Plant

Bill,  
As requested, attached is a .pdf of the Jordan Cove Tsunami hydrodynamic  
modeling memorandum.  
Let me know if you need any additional information.  
Hope all is well,

**Michael Marshall, R.G., L.G.** | Project Geologist  
**Geotechnical Resources, Inc. (GRI)** | 9725 SW Beaverton-Hillsdale Hwy, # 140, Beaverton, OR 97005  
**e:** [mmarshall@gri.com](mailto:mmarshall@gri.com) | **p:** 503-641-3478 | **m:** 971-219-4397 | **lw:** [gri.com](http://gri.com)  
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**Oregon**  
John A. Kitzhaber, MD, Governor

**Department of Geology and Mineral Industries**

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November 21, 2014

Andrea Goodwin  
Energy Facility Siting Analyst  
Oregon Department of Energy  
625 Marion Street NE  
Salem, OR 97301

Re: Proposed South Dunes Power Plant, Coos County, Oregon, Revised (RA1-2) Pre-Application for Site Certificate (ASC) Appendix Review by DOGAMI

Dear Ms. Goodwin,

The Oregon Department of Geology and Mineral Industries (DOGAMI) had agreed to perform a review of the proposed South Dunes Power Plant Project (SDPP) Revised (RA1-2) Pre-Application for Site Certificate (pASC) Exhibit H and Appendix dated October 2014. DOGAMI's review was to include Exhibit H and what we thought would be the revisions to the Exhibit H Appendix previously reviewed in February, August, and October 2014.

Our review of the revised Exhibit H indicated that many of our previous comments were not addressed. However, a couple of the comments were address and thus removed. One comment was partially addressed and revised. Our comments and concerns on Exhibit H that still stand are attached.

The Appendix submitted for review appears to be nearly completely new. The old appendix from our earlier reviews including earlier in October 2014 had 18 reports and was 895 pages long. The new appendix has 8 reports and is 315 pages long. We did not have sufficient time to review this completely revised or completely new Appendix. We note that some of the comments on the current Exhibit H may have been answered in the new Appendix, but again we did not review the new Appendix. We stand ready to discuss the possibility of DOGAMI reviewing the current and/or a revised appendix in the near future. In order to expedite future reviews, we request the applicant to provide an organized description and locations in the Exhibit H and Appendix where our questions/concerns are addressed.

We appreciate the opportunity to participate in the EFSC process. If you have any questions, please contact me at 971-673-1538 or [bill.burns@dogami.state.or.us](mailto:bill.burns@dogami.state.or.us).

Sincerely,

William Burns, MS, CEG  
Engineering Geologist, DOGAMI

cc: Vicki McConnell, Director DOGAMI; Richard Whitman, Director GNRO; Michael Kaplan, Director ODOE

Attachments: Proposed South Dunes Power Plant Project, Application for Site Certificate (ASC) Exhibit H (RA1-2), DOGAMI Comments; General Scope of DOGAMI Review

Oregon State Agency Consolidated Comments

Appendix

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**Proposed South Dunes Power Plant Project  
Application for Site Certificate (ASC) Comments  
Oregon Department of Geology and Mineral Industries**

SA1-285

**Comments on November 21, 2014 (Exhibit H only)**

**Comment**

We note the USGS recently (July 2014) released new earthquake hazard information for Oregon and the proposed site area (SDPP) appears to have some possibly significant changes in the hazard (Petersen and others, 2014).

**References**

Petersen, M.D., Moschetti, M.P., Powers, P.M., Mueller, C.S., Haller, K.M., Frankel, A.D., Zeng, Yuehua, Rezaeian, Sanaz, Harmsen, S.C., Boyd, O.S., Field, Ned, Chen, Rui, Rukstales, K.S., Luco, Nico, Wheeler, R.L., Williams, R.A., and Olsen, A.H., 2014, Documentation for the 2014 update of the United States national seismic hazard maps: U.S. Geological Survey Open-File Report 2014-1091, 243 p., <http://dx.doi.org/10.333/ofr20141091>.

**Location in Exhibit H (section, page)**

Global Item #1

**Comment**

When considering geologic hazard mitigation design and appropriate factors of safety, the applicant should take into account that the LNG export terminal has strong dependencies on the proposed SDPP and vice versa. We recommend an independent technical peer review of the interdependencies between the two facilities to evaluate for potential failure modes relating to public safety concerns. Currently, each facility is being independently designed, which is common practice. However, without clear regard of the each facility's intended purpose and their operational interdependencies, it is possible that the failure of one facility could negatively impact the operation of the other facility. We want to ensure that adequate safeguards be considered to control against a cascading failure of both facilities in light of the fact that both facilities are located in a high seismic hazard zone in the tsunami inundation zone.

To support our recommendation for an independent technical review, we provide this example. During the March 2011 Tohoku earthquake, the power supply for the Fukushima nuclear power plant was severed due to landslides causing the collapse of the electrical transmission towers. Further, the emergency generators for the power plant failed due to tsunami inundation flooding, the nuclear reactors suffered serious damage that negatively impacted both public safety and the environment. An independent review to evaluate potential cascading failures may have averted this disaster.

**Location in Exhibit H (section, page)**

Global Item #2

**Comment**

There is no mention of technical peer review of the proposed detailed geotechnical and seismic reports to ensure technical competency. An independent (non-government agency) technical peer review should be performed on the detailed geotechnical and seismic reports. Review should be done by qualified and licensed geologists and engineers. All technical peer review comments should be recorded and addressed by the applicant as part of the EFSC review process.

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SA1-285

The following document contains the State's comments on the Applicant's Application for Site Certification; it is therefore, not a comment on the FERC Draft EIS.

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**Location in Exhibit H (section, page)**

Global Item #3

**Comment**

Monitoring and corrective actions are not adequately addressed. We recommend including a monitoring program with regularly scheduled inspections and post event inspections, such as after earthquakes/tsunamis or storms. We further recommend that, based on collected monitoring information and analyses after events, corrective actions are taken to reduce potential future public safety related issues.

**Location in Exhibit H (section, page, line)**

Transmission Lines and Pipelines, H-11

**Comment**

We recommend that all geologic hazards which may impact the transmission lines and pipelines be identified. These should include but not be limited to earthquake shaking, tsunami, lateral spread, liquefaction, subsidence, erosion, riverine flooding and climate change hazards including sea level rise.

**Location in Exhibit H (section, page, line)**

Recorded Earthquakes, H-16, line 373-376

**Comment**

It is scientific consensus that a magnitude 9 Cascadia subduction zone earthquake occurred along the coast of the Pacific NW (including the Oregon) on January 26, 1700. Remove the language that states "may have occurred" and provide an overview of the current scientific understanding of Cascadia earthquake occurrences and hazards. Two recent notable scientific references are: U.S. Geological Survey Professional Paper 1707 (Atwater et al, 2005) and U.S. Geological Survey Professional Paper 1661 (Goldfinger et al, 2013).

**Location in Exhibit H (section, page, line)**

Ground Failure, H-18

**Comment**

Oregon Geologic Database Compilation (OGDC-5) indicates that a mapped fault exists directly adjacent and/or within the site boundary. No mapped Quaternary faults are identified within or directly adjacent to the site in the Personius et al (2003) database, however, this regional (statewide) fault database should not be solely used to make site-specific conclusions. Both published and unpublished faults should be investigated so that clear conclusions about the possibility of surface fault rupture and other ground failure hazards at the site can be made.

**Location in Exhibit H (section, page, line)**

Tsunami Inundation, H-20

**Revised Comment (Exhibit H, RAI-2, October, 2014)**

The applicant should clearly indicate that the site is located within the tsunami regulatory map zone. We recommend reading and complying with the following document <http://www.oregongeology.org/pubs/ofr/O-03-05.pdf> and following the current Oregon Structural Specialty Code section 1803 and ORS 455.446 and 455.447.

We recommend that any mitigation should include life safety level design, which may include, but not be limited to items such as structural and/or geotechnical design, evacuation planning, and education. Mitigation should also include expected scouring, erosion, debris impact and co-seismic subsidence.

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**Location in Exhibit H (section, page, line)**

Flood, H-22

**Comment**

The site appears to have portions located within the current (2009) Effective FEMA Special Flood Hazard Areas (SFHA) and within the proposed (2014) Preliminary FEMA SFHA. Since the applicant has proposed to place fill on site, possibly within the SFHA, we recommend contacting FEMA Region X (<http://www.fema.gov/region-x-ak-id-or-wa>) and the Oregon Department of Land Conservation and Development (<http://www.oregon.gov/lcd/Pages/index.aspx>) to discuss regulations and guidelines associated with any proposed earthwork in the floodplain. We recommend that the proposed fill placement be designed and engineered to avoid the creation of new hazards.

**References**

- Atwater, et al., 2005. The Orphan Tsunami of 1700, U.S. Geological Survey, Professional Paper 1701
- Goldfinger, C., Nelson, C.H., Morey, A.E., Johnson, J.E., Patton, J.R., Karabanov, E., Gutiérrez-Pastor, J., Eriksson, A.T., Gracia, E., Dunhill, G., Erkin, R.J., Dallimore, A., and Vallier, T., 2012. Turbidite event history—Methods and implications for Holocene paleoseismicity of the Cascadia subduction zone: U.S. Geological Survey Professional Paper 1661–F. 170 p. (Available at <http://pubs.usgs.gov/pp/pp1661f/>).
- Ma, L., Madin, I. P., Olson, K.V., Watzig, R. J., Wells, R. E., Niem, A.R., and Priest, G. R., compilers, 2009, Oregon geologic data compilation [OGDC], release 5 (statewide); Oregon Department of Geology and Mineral Industries Digital Data Series OGDC-5, CD-ROM.
- Personius, et al, 2004, Map and data for Quaternary Faults and folds in Oregon, U.S. Geological Survey Open-File Report 03-095.
- TIM-Coos-05, Tsunami Inundation Maps for Coos Bay - North Bend, Coos County, Oregon. Oregon Department of Geology and Mineral Industries



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#### GENERAL SCOPE OF DOGAMI REVIEW

We have scoped our efforts as follows:

- The Department of Geology and Mineral Industries (DOGAMI) is a "commenting agency" and generally requires no permits, except for section 1803.2.1 Tsunami Inundation Zone of the Oregon Structural Specially Code (Oregon Revised Statutes [ORS] 455.446). The focus of ORS 445.447 is on the safety of occupants during tsunami events.
- Our area of responsibility in this review includes geologic and seismic hazards as described in Oregon Administrative Rules (OAR) 345-21-0010 h and OAR 345-22-020 (both attached). These relate to vulnerability to geologic hazards and to standards respectively.
- The charge to this agency to address these concerns is in accordance with the general terms and budget of an Interagency Agreement between DOGAMI and the Oregon Department of Energy (ODOE). Included tasks are Notice of Intent and Application for Site Certificate reviews. Other tasks are possible upon specific request from the council.
- Our review is limited to the documents provided. We did not do any new exploration and/or analysis. Our comments are not based on site-specific evaluation by DOGAMI. The intended depth of our review is at an overview and/or regional level of detail. For example, we review the documents to make sure the applicant has answered the questions in the attached OARs and that the answers seem reasonable.



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**OAR 345-021-0010 h**

**Contents of an Application**

(1) The project order described in OAR 345-015-0160(1) identifies the provisions of this rule applicable to the application for the proposed facility, including any appropriate modifications to applicable provisions of this rule. The applicant shall include in its application for a site certificate information that addresses each provision of this rule identified in the project order. The applicant shall designate the information with the appropriate exhibit label identified in the following subsections. If the same information is required in each of several exhibits the applicant may provide the required information in one exhibit and include appropriate references in the others. For the purpose of submitting an application for a site certificate in an expedited review granted under OAR 345-015-0300 or OAR 345-015-0310, the applicant shall include information that addresses all provisions of this rule. In such expedited reviews, analysis areas addressed in this rule are the study areas defined in OAR 345-001-0010, subject to later modification in the project order.

(h) **Exhibit H.** Information from reasonably available sources regarding the geological and soil stability within the analysis area, providing evidence to support findings by the Council as required by OAR 345-022-0020, including:

(A) A geologic report meeting the guidance in Oregon Department of Geology and Mineral Industries open file report 00-04 "Guidelines for Engineering Geologic reports and Site-Specific Seismic Hazard Reports."

(B) A description and schedule of site-specific geotechnical work that will be performed before construction for inclusion in the site certificate as conditions.

(C) Evidence of consultation with the Oregon Department of Geology and Mineral Industries regarding the appropriate site-specific geotechnical work that must be performed before submitting the application for the Department to determine that the application is complete.

(D) For all transmission lines, a description of locations along the proposed route where the applicant proposes to perform site specific geotechnical work, including but not limited to railroad crossings, major road crossings, river crossings, dead ends, corners, and portions of the proposed route where geologic reconnaissance and other site specific studies provide evidence of existing landslides or marginally stable slopes that could be made unstable by the planned construction.

(E) For all pipelines that would carry explosive, flammable or hazardous materials, a description of locations along the proposed route where the applicant proposes to perform site specific geotechnical work, including but not limited to railroad crossings, major road crossings, river crossings and portions of the proposed alignment where geologic reconnaissance and other site specific studies provide evidence of existing landslides or marginally stable slopes that could be made unstable by the planned construction.

(F) An assessment of seismic hazards. For the purposes of this assessment, the maximum probable earthquake (MPE) is the maximum earthquake that could occur under the known tectonic framework with a 10 percent chance of being exceeded in a 50 year period. If seismic sources are not mapped sufficiently to identify the ground motions above, the applicant shall provide a probabilistic seismic hazard analysis to identify the peak ground accelerations expected at the site for a 500 year recurrence interval and a 5000 year recurrence interval. In the assessment, the applicant shall include:

(i) Identification of the Maximum Considered Earthquake Ground Motion as shown for the site under the 2009 International Building Code.

(ii) Identification and characterization of all earthquake sources capable of generating median peak ground accelerations greater than 0.05g on rock at the site. For each earthquake source, the applicant shall assess the magnitude and minimum epicentral distance of the maximum credible earthquake (MCE).

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(iii) A description of any recorded earthquakes within 50 miles of the site and of recorded earthquakes greater than 50 miles from the site that caused ground shaking at the site more intense than the Modified Mercalli III intensity. The applicant shall include the date of occurrence and a description of the earthquake that includes its magnitude and highest intensity and its epicenter location or region of highest intensity.

(iv) Assessment of the median ground response spectrum from the MCE and the MPE and identification of the spectral accelerations greater than the design spectrum provided in the 2010 Oregon Structural Specialty Code. The applicant shall include a description of the probable behavior of the subsurface materials and amplification by subsurface materials and any topographic or subsurface conditions that could result in expected ground motions greater than those characteristic of the Maximum Considered Earthquake Ground Motion identified above.

(v) An assessment of seismic hazards expected to result from reasonably probable seismic events. As used in this rule "seismic hazard" includes ground shaking, ground failure, landslide, lateral spreading, liquefaction, tsunami inundation, fault displacement and subsidence.

(G) An assessment of soil-related hazards such as landslides, flooding and erosion which could, in the absence of a seismic event, adversely affect or be aggravated by the construction or operation of the facility.

(H) An explanation of how the applicant will design, engineer and construct the facility to avoid dangers to human safety from the seismic hazards identified in paragraph (F). The applicant shall include proposed design and engineering features, applicable construction codes, and any monitoring for seismic hazards.

(I) An explanation of how the applicant will design, engineer and construct the facility to adequately avoid dangers to human safety presented by the hazards identified in paragraph (G).

#### Division 22

##### OAR 345-022-0020: Structural Standard

(1) Except for facilities described in sections (2) and (3), to issue a site certificate, the Council must find that:

(a) The applicant, through appropriate site-specific study, has adequately characterized the site as to the Maximum Considered Earthquake Ground Motion as shown for the site in the 2009 International Building Code and maximum probable ground motion, taking into account ground failure and amplification for the site specific soil profile under the maximum credible and maximum probable seismic events; and

(b) The applicant can design, engineer, and construct the facility to avoid dangers to human safety presented by seismic hazards affecting the site that are expected to result from maximum probable ground motion events. As used in this rule "seismic hazard" includes ground shaking, ground failure, landslide, liquefaction, lateral spreading, tsunami inundation, fault displacement, and subsidence;

(c) The applicant, through appropriate site-specific study, has adequately characterized the potential geological and soils hazards of the site and its vicinity that could, in the absence of a seismic event, adversely affect, or be aggravated by, the construction and operation of the proposed facility; and

(d) The applicant can design, engineer and construct the facility to avoid dangers to human safety presented by the hazards identified in subsection (c).

(2) The Council may issue a site certificate for a facility that would produce power from wind, solar or geothermal energy without making the findings described in section (1). However, the Council may apply the requirements of section (1) to impose conditions on a site certificate issued for such a facility.

(3) The Council may issue a site certificate for a special criteria facility under OAR 345-015-0310 without making the findings described in section (1). However, the Council may apply the requirements of section (1) to impose conditions on a site certificate issued for such a facility.

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## Carlson Geotechnical

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February 3, 2015

Oregon Department of Energy  
Ms. Shanda Shribbs, Federal Projects Coordinator  
625 Marion St. NE  
Salem, Oregon 97301-3737  
c/o: Ms. Katherine Clifford of Cardno

### Geotechnical Peer Review - Jordan Cove LNG Project Coos County, Oregon

CGT Project Number G1504130.A

#### 1.0 INTRODUCTION

Carlson Geotechnical (CGT), a division of Carlson Testing, Inc. (CTI), is pleased to submit this letter detailing the results of our review of the geotechnical and geological portions of Chapters 1 through 5 of the Draft Environmental Impact Statement (DEIS) - Jordan Cove Energy and Pacific Connector Gas Pipeline Project, dated November 2014 (FERC/EIS 0256D) and our geotechnical peer review of Resource Report 6 – Geological Resources (Appendices A and B), included in the application to FERC for the project, dated May 2013. Our services were provided in accordance with Cardno, Inc. (Cardno), Task Order CAG-ODE-2015-01 dated January 21, 2015, our Master Professional Service Agreement dated January 19, 2015, and subsequent email communications.

#### 1.1 Peer Reviewed Documents

The geotechnical investigation report and site-specific seismic hazard study which were peer reviewed included:

- Task Order No. 5, *Geotechnical Investigation, Proposed Jordan Cove LNG Facility, Coos County, Oregon*, prepared by Geotechnical Resources, Inc., (GRI) and dated July 2, 2007 (Revised April 23, 2013), designated hereafter and in the attached tables as "GR", and
- Task Order No. 4A, *Site-Specific Seismic Hazard Study, Proposed Jordan Cove LNG Facility, Coos County, Oregon*, prepared by GRI and dated July 2, 2007 (Revised April 23, 2013), designated hereafter and in the attached tables as "SSSHS".

The GR and SSSHs were provided as Appendices A and B, respectively, to Resource Report 6 – Geological Resources (RR6), included with the May 2013 application to FERC for the project.

#### 1.2 Background & Supplemental Reference Documents Provided

Additional background and supplemental documents which were provided for our reference included:

- RR6 Appendix C, *Final Report Site-Specific Tsunami Modeling at the Jordan Cove LNG Facility Coos County, Using New Cascadia Sources*, prepared by Y. Joseph Zhang, Ph.D., Center for Coastal Margin Observation & Prediction (CMOP) Oregon Health & Science University, dated November 29, 2012.
- RR6 Appendix D, *Preliminary Biogenic Gas Evaluation, South Dunes Power Plant, Former Mill Site Landfills, Coos County, Oregon*, prepared by GRI and dated December 17, 2012.
- Resource Report 1 – General Project Description, dated May 2013 (RR1)
- Resource Report 7 - Table 7.1-1 Summary of Soil Types Found on the JCEP LNG Terminal Project Site, dated May 2013.

Carlson Geotechnical • P.O. Box 23814, Tigard, Oregon 97281

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- The following individual figures identified by their electronic file name as provided:
  - Figure\_7.1-1\_Soil\_Map\_of\_the\_Project\_Site\_11x17
  - Figure\_1.1-1\_Project\_Location\_Map
  - Figure\_1.1-2\_Plot\_Plan\_of\_the\_LNG\_Terminal
  - Figure\_1.1-4\_Plot\_Plan\_of\_the\_Marine\_Facilities\_11x17L
  - Figure\_1.1-5\_Plot\_Plan\_of\_Marine\_Berth\_11x17L
  - Figure\_1.3-1\_Industrial\_Wastewater\_and\_Water\_Pipeline\_Relocations\_11x17L
  - Figure\_1.3-2\_Truck\_Haul\_Hydraulic\_Transport\_Pipeline\_Route
  - Figure\_1.10-1\_USGS\_Topo\_Map
  - Figure\_1.10-2\_Aerial\_Photography\_of\_Project\_Site\_11x17
  - Figure\_2.2-1\_Wetland\_Delineation\_of\_the\_Project\_Site\_11x17L
  - Figure\_8.2-1\_Existing\_Land\_Use\_of\_the\_Project\_Area
- The following chapters of the DEIS - Jordan Cove Energy and Pacific Connector Gas Pipeline Project, dated November 2014 (FERC/EIS 0256D):
  - Chapter 1 – Introduction
  - Chapter 2 – Description of Proposed Action
  - Chapter 3 – Alternatives
  - Chapter 4 – Environmental Analysis
  - Chapter 5 – Conclusions and Recommendations

### 1.3 Review Criteria

As requested, we performed our peer review of the GR and SSSHs included with the application to FERC to check compliance with the requirements outlined in:

- 2010 Oregon Structural Specialty Code (OSSC),
- Minimum Design Loads for Buildings and other Structures, prepared by the American Society of Civil Engineers (ASCE) 7-05, dated 2006, and
- Draft Seismic Design Guidelines and Data Submittal Requirements for LNG Facilities, prepared by the Federal Energy Regulatory Commission (FERC/FERC Guidelines).

CGT reviewed these criteria documents in preparation for our geotechnical review of the proposed project. In our opinion, these criteria documents provide appropriate geotechnical guidance for the proposed LNG terminal project.

### 2.0 DEIS REVIEW & OVERALL GEOTECHNICAL OPINION

As documented in the DEIS, a number of geotechnical and geologic challenges are present at the proposed LNG terminal site. The primary challenges revolve around the nearby Cascadia Fault and related seismic hazards (tsunami, ground shaking, liquefaction, lateral spread, etc.). The LNG project includes two primary portions: the LNG Terminal that would be located at Jordan Cove in Coos County, Oregon, and the pipeline that would connect the terminal to the proposed LNG facilities near Klamath Falls, Oregon. The terminal consists of two main areas: the LNG tank and marine slip area, and a gas treatment facility and metering station. The gas treatment facility and metering station would be located approximately 1 mile east of the tank and marine slip adjacent to the proposed South Dunes Power Plant (SDPP). The two portions of the facility would be connected by a utility and access corridor.

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## 2.1 Pipeline

No specific geotechnical information was provided in the DEIS for this portion of the proposed project. According to the information provided in the DEIS, the pipeline route would include numerous river and stream crossings, and several landslide areas would also be traversed. CGT recommends that the final EIS incorporate geotechnical and geological investigations addressing design and construction of the pipeline portion of the project.

SA1-286

## 2.2 South Dunes Power Plant

We understand from Cardno that development of the South Dunes Power Plant portion of the project is undergoing the Energy Facility Siting Council (EFSC) review process, and that the geotechnical investigations submitted with the Application for Site Certificate have been reviewed as part of that process. According to the DEIS, the gas treatment facility and metering station are to be located immediately adjacent to the SDPP. No specific geotechnical information was provided in the DEIS for this portion of the proposed project. CGT recommends that the final EIS incorporate geotechnical and geological investigations addressing design and construction of the gas treatment facility, metering station, and other portions of the project not addressed in the DEIS.

SA1-287

## 2.3 LNG Terminal

The geotechnical information contained in the DEIS was focused on the LNG terminal portion of the project, with limited explorations and geotechnical information regarding the other portions of the project. In our opinion, the LNG terminal, as presented in the DEIS, GR, and SSSHS is geotechnically feasible and these documents have addressed the principal geotechnical considerations identified in the criteria documents (Section 1.3). In our opinion, these documents provide a professional-level and detailed assessment of various key geotechnical considerations for the LNG facility development. A number of individual items have been identified in the attached comments and recommendations tables (Section 3.0), which, in our opinion, require additional evaluation. Notwithstanding the preceding sentence, we do not anticipate that recommended additional evaluations will result in changes to the geotechnical feasibility of the project or to the overall geotechnical findings and conclusions of the DEIS. We anticipate the recommended additional evaluation will principally provide refinement to the analyses for use in design and construction of the facility.

SA1-288

## 3.0 GEOTECHNICAL PEER REVIEW – LNG TERMINAL AREA

### 3.1 Overview

The RR6 serves principally as a summary and cover document for several key studies. These studies, including the peer reviewed GR and SSSHS, are included as individual appendices. Each of these two documents was reviewed for compliance with the requirements of each of the three reference criteria listed in Section 1.3 above.

It is evident in both peer-reviewed documents that additional studies and subsequent evaluations have been performed or are underway. These additional studies and subsequent evaluations have not been provided and their review is beyond the scope of this current assignment.

### 3.2 Review to OSSC & ASCE 7-05 Requirements

Our review of the GR and SSSHS for compliance with OSSC considered that these studies addressed only a limited portion of the project, specifically the LNG tanks and immediately-surrounding area. We understand that additional, more recent studies may have been completed elsewhere for the larger LNG facility but such studies were not made available and were not the subject of this review. Additionally, we considered that the GR and SSSHS work in concert in addressing the general investigation requirements of OSSC Section 1803. The studies

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See the GeoEngineers Reports referenced in the DEIS: GeoEngineers. 2007a. Final Report, Geotechnical Engineering Services, Proposed Coos Bay Water Route, Coos Bay, Oregon.

GeoEngineers. 2007b. Channel Migration and Scour Analysis Report. Pacific Connector Gas Pipeline, L.P.

GeoEngineers. 2009a. Addendum to Geologic Hazards Evaluation. Pacific Connector Gas Pipeline Project, Southwest, Oregon. GeoEngineers, Portland, Oregon. January 16.

GeoEngineers. 2010. Sediment Characterization, Pacific Connector Gas Pipeline Project, Haynes Inlet, Oregon, Corps No. NWP-2008-592. File No. 16724-001-05, August 2, 2010. Prepared for Pacific Connector Gas Pipeline, LP, by GeoEngineers, Inc. Portland, Oregon.

GeoEngineers. 2013a. Geologic Hazard Evaluation, PCGP Modified Blue Ridge 2013 Route. September 4.

GeoEngineers. 2013b. GeoEngineers. 2013c. Stream Crossing Risk Analysis – Pacific Connector Gas Pipeline. Coos, Douglas, Jackson, and Klamath Counties, Oregon. Prepared for: Williams Pacific Connector Gas Pipeline, LP. May 29.

GeoEngineers. 2013d. Stream Crossing Hyporheic Analysis. Provided as a stand-alone document 3-JPA\_DEQ-R29 in the Joint Permit Application Document. May 29.

GeoEngineers. 2013f. Channel Migration and Scour Analysis. Pacific Connector Gas Pipeline Project. File No. 16724-001-08. Prepared by E.T. Barnett, J.M. Ambrose, and T. Hoyles. May 29.

GeoEngineers. 2013h. Horizontal Directional Drilling (HDD) Feasibility Study. Prepared for Williams Pacific Connector Gas Pipeline, LLC. File No. 16724-008-00. January 15.

SA1-287

The South Dunes Power Plant is a non-jurisdictional facility. See section 2.2.2.

SA1-288

See the response to comment SA1-286. Also, most private landowners have not permitted the applicant to survey their land; therefore, not all studies could be completed at this time.

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were looked at individually only with respect to the specific reporting requirements of OSSC Sections 1803.6 and 1803.7, respectively.

Since the majority of the relevant seismic requirements provided in ASCE 7-05 are incorporated into the OSSC, the OSSC review should be considered to address both OSSC and ASCE criteria unless noted otherwise.

As we performed our review, we stepped through the individual OSSC requirements, principally those identified in Section 1803. Only items which did not, in our opinion, meet a particular aspect of the OSSC requirement were noted. With regard to conformance, if a particular OSSC requirement was met, no notation was made. The issues identified by our review and our associated recommendations are presented in Table 1, which is attached. Table 1 presents the results sequentially according to the relevant OSSC section. A keyword or phrase was associated with each item and, where possible, the relevant section(s) of the GR and/or SSSHs were identified. Each item listed includes a description of the issue and provides our related recommendation(s).

As requested, our peer review was for compliance with the 2010 OSSC, which has been superseded by the 2014 OSSC. The 2014 OSSC includes revisions to seismic design requirements and references newer (2008) seismic data from the United States Geological Survey (USGS). CGT recommends that the GR and SSSHs be updated to address the requirements of the most current building code (at the time of final submission); however, it should be noted that determination of applicable building code rests with the jurisdiction(s).

### 3.3 Review to FERC Guidelines (FERC / FERC Guideline)

The GR and SSSHs documents were reviewed individually against the pertinent FERC Guideline sections based on its more detailed and extensive requirements for each report. Additionally, because the FERC Guidelines address the entire facility, including areas beyond the LNG tanks, these reports were reviewed in light of the entire LNG facility. CGT recognizes that the GR and SSSHs address only limited portions of the larger LNG facility. Accordingly, the items identified by our review frequently reference additional studies and subsequent analysis not available to us, the review of which was beyond our current assignment.

As we performed our review, we looked first at the specific FERC requirements for each of the individual documents. These specific requirements were included in FERC Appendix A and B for the GR and SSSHs, respectively. We stepped through the individual requirements and only noted items which did not, in our opinion, meet a particular aspect of the FERC requirements. After review of the GR and SSSHs to the requirements provided in the FERC Appendices, we reviewed FERC Parts I and II to address any unique additional requirements identified therein.

With regard to conformance, if a particular FERC requirement was met, no notation was made. The issues identified by our review and our associated recommendations are presented in the attached Table 2 for the GR and Table 3 for the SSSHs. Each table generally presents the results sequentially according to the relevant FERC section. A keyword or phrase was associated with each item and, where possible, the relevant section(s) of the GR and/or SSSHs were identified. Each item listed includes a description of the issue and provides our related recommendation(s).

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### 3.4 Additional Review Comments & Recommendations

We also noted several comments and recommendations which generally relate to standards of practice or simply our professional opinion and do not relate to a specific OSSC, ASCE or FERC requirement. These additional items are provided in Table 4, which is also attached.

### 4.0 LIMITATIONS

Our peer review was limited to the specific documents and criteria identified in Section 1.1 and 1.3. Additional documents listed in Section 1.2 were considered references and no detailed geotechnical peer review was performed. Additionally, the references identified in Section 1.2 referred to numerous studies and documents beyond the scope of our current assignment.

Geotechnical engineering and the geologic sciences are characterized by a degree of uncertainty. Professional opinions and recommendations presented in this review are based on our understanding of the proposed construction, familiarity with similar studies and projects in the area, and on general experience. Within the limitations of scope, schedule, and budget, our services have been executed in accordance with the generally accepted practices in this area at the time this report was prepared; no warranty, expressed or implied, is made.

### 5.0 CLOSURE

We appreciate the opportunity to work with you on this project. Please contact us at 503.601.8250 if you have any questions regarding this review.

Respectfully Submitted,  
CARLSON GEOTECHNICAL



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Attachments: Table 1 – Review of 2010 OSSC Requirements  
Table 2 – Review of GR to FERC Guidelines  
Table 3 – Review of SSSHS to FERC Guidelines  
Table 4 – Additional Review Comments and Recommendations

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Carlson Geotechnical  
Oregon State Agency Consolidated Comments

Appendix

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Appendix W - Comments on the Draft EIS and Responses  
Comments on the Draft EIS and Responses  
Comments on the Draft EIS and Responses

Table 1: Review to 2010 OSG Requirements				
Item	Response	OSG Section	Related OSG Section	Relevant Report Section
1	Soil Classification	1803.5.1	1803.5.1	OSG Section 4.2.2
2	Compaction Fill Volume	1803.5.2.1	1803.5.2.1	OSG Section 4.2.2
3	Seismic Design Category	1803.5.3	1803.5.3	OSG Section 4.2.2
4	Shoreline Elevation	1803.5.4.1	1803.5.4.1	OSG Section 4.2.2
5	Traverse Spacing	1803.5.4.2	1803.5.4.2	OSG Section 4.2.2
6	Impervious	1803.5.4.3	1803.5.4.3	OSG Section 4.2.2
7	Impervious	1803.5.4.3	1803.5.4.3	OSG Section 4.2.2
8	Complete Record of	1803.5.4.3	1803.5.4.3	OSG Section 4.2.2

Comments on the Draft EIS and Responses

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Table 1: Review to 2010 OSSC Requirements

Carbon: Geochemical

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$\mathcal{C}(\mathbf{u}, \mathbf{v}, \mathbf{w}) := \mathcal{C}(\mathbf{u}, \mathbf{v}, \mathbf{w}, \mathbf{u}, \mathbf{v}, \mathbf{w})$	$\mathbf{H}(\mathbf{u}, \mathbf{v}, \mathbf{w}, \mathbf{u}, \mathbf{v}, \mathbf{w})$
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## Appendix

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Confession: *Confession*

Appendix

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Oregon State Agency Consolidated Comments

Table 3: Review of "Site-Specific Seismic Hazard Study, Proposed Jordan Cove LNG Facility, Coos County, Oregon," prepared by GRI, dated July 2, 2007 (Revised April 23, 2013), to FERC Guidelines

Consumer Satisfaction Agency Customer Complaints

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Jordan Cove Energy and Pacific Connector Gas Pipeline Project  
Gas County, Oregon  
GIS PROJECT: 62100123-4

Table 4. Additional Review Comments and Recommendations.

Item	Keyword	Report Section Number	Issue	Recommendation
75	Organic Material Over Penetration	GR Section 6.2	Section 6.2 of the GR recommends that, where appropriate, measures be taken to prevent the ingress of organic material into the structure. The GR should be updated to address potential for settlement from decay of organic material within the recommended fill.	Report should address whether the core material and removal of organic material is recommended, or other proposed alternatives. The GR should be updated to address potential for settlement from decay of organic material within the recommended fill.
76	Liquefaction Analysis Results	GR Appendix G	Data presented in the boring logs do not seem to be representative of the liquefaction results presented in the Appendix G. For example, the boring log for Boring 3-4 does not show a sample at a depth of 30 feet, or a thin layer of 6 inch, which will have low liquefaction analysis results compared to other borings.	Address if value should be considered in ultimate value or factored value. Provide information on the grain size distribution and the degree of saturation. The GR should be updated to address potential for settlement from decay of organic material within the recommended fill.
77	Lateral Displacement	GR Section 7.2	GR Section 7.2 recommends that the structure be designed to resist lateral displacement due to ground movement. The GR should be updated to address potential for settlement from decay of organic material within the recommended fill.	Address if value should be considered in ultimate value or factored value. Provide information on the grain size distribution and the degree of saturation. The GR should be updated to address potential for settlement from decay of organic material within the recommended fill.
78	Joint Elasticity	GR Appendix E	The settlement analysis included in Appendix E assumes a joint of infinite elasticity. The GR should be updated to address potential for settlement from decay of organic material within the recommended fill.	Address if value should be considered in ultimate value or factored value. Provide information on the grain size distribution and the degree of saturation. The GR should be updated to address potential for settlement from decay of organic material within the recommended fill.
79	Joint Displacement Tolerance	GR Appendix C	The GR should be updated to address potential for settlement from decay of organic material within the recommended fill.	Address if value should be considered in ultimate value or factored value. Provide information on the grain size distribution and the degree of saturation. The GR should be updated to address potential for settlement from decay of organic material within the recommended fill.
80	Ground Improvement Regarding Flaring Operations	GR Section 6.3.2	GR Section 6.3.2 recommends that the structure be designed to resist lateral displacement due to ground movement. The GR should be updated to address potential for settlement from decay of organic material within the recommended fill.	Address if value should be considered in ultimate value or factored value. Provide information on the grain size distribution and the degree of saturation. The GR should be updated to address potential for settlement from decay of organic material within the recommended fill.
81	Valification	GR Section 6.3.2	GR Section 6.3.2 recommends that the structure be designed to resist lateral displacement due to ground movement. The GR should be updated to address potential for settlement from decay of organic material within the recommended fill.	Address if value should be considered in ultimate value or factored value. Provide information on the grain size distribution and the degree of saturation. The GR should be updated to address potential for settlement from decay of organic material within the recommended fill.
82	Joint Displacement	GR Section 6.3.2	GR Section 6.3.2 recommends that the structure be designed to resist lateral displacement due to ground movement. The GR should be updated to address potential for settlement from decay of organic material within the recommended fill.	Address if value should be considered in ultimate value or factored value. Provide information on the grain size distribution and the degree of saturation. The GR should be updated to address potential for settlement from decay of organic material within the recommended fill.
83	Joint Displacement	GR Section 6.3.2	GR Section 6.3.2 recommends that the structure be designed to resist lateral displacement due to ground movement. The GR should be updated to address potential for settlement from decay of organic material within the recommended fill.	Address if value should be considered in ultimate value or factored value. Provide information on the grain size distribution and the degree of saturation. The GR should be updated to address potential for settlement from decay of organic material within the recommended fill.
84	Joint Displacement	GR Section 6.4.4	GR Section 6.4.4 recommends that the structure be designed to resist lateral displacement due to ground movement. The GR should be updated to address potential for settlement from decay of organic material within the recommended fill.	Address if value should be considered in ultimate value or factored value. Provide information on the grain size distribution and the degree of saturation. The GR should be updated to address potential for settlement from decay of organic material within the recommended fill.

Table 4. Additional Review Comments and Recommendations.

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